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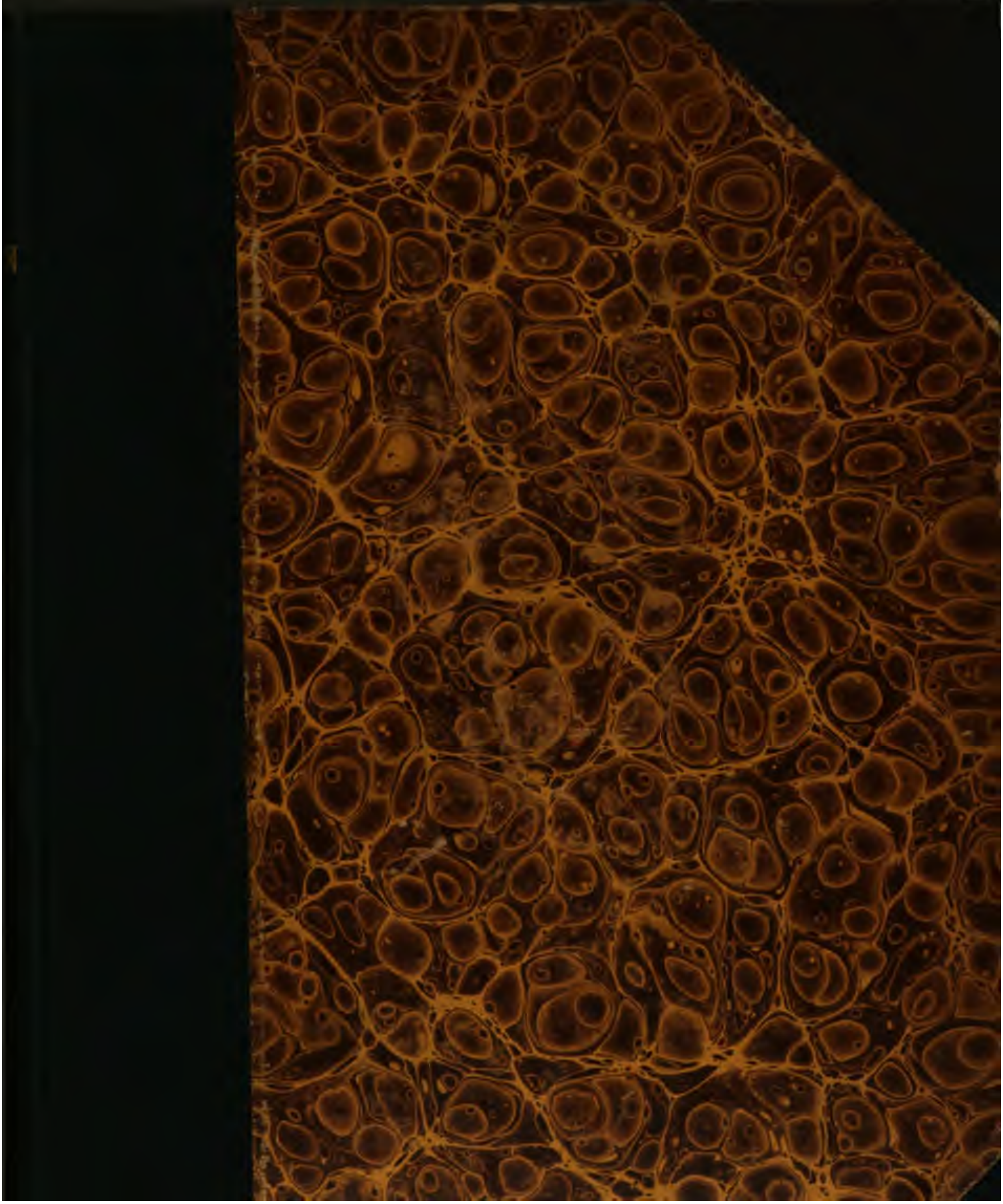

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BULLETIN

OF THE

American Academy of Medicine.

VOLUME IX.

JANUARY TO DECEMBER, 1908.

EASTON, PA.:
ESCHENBACH PRINTING CO.,
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BULLETIN
OF THE
American Academy of Medicine.

(Specializing in Medical Sociology.)

VOL. IX. ISSUED FEBRUARY, 1908. NO. 1

THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

LEADING ARTICLE.

THE SPECIAL CONFERENCE AT PITTSBURG.

The transactions and some of the papers with their discussion, are to be found on other pages of this number. There remains the attempt to answer the question—What is the result of the experiment? The formulation of the reply will depend upon one's view-point. That one who thinks that the investigations already in progress are all sufficient, will be apt to quote the line of Horace.

Parturiunt montes, nascetur ridiculus mus.

An auditor unacquainted with the complexity of the condition and unaware of the many remedial measures suggested, upon hearing the various opinions, would be apt to liken it to Sandy MacTavit's *Musicale*, where he had six pipers playing at once, each piping a different tune.

It might be well to recall the fact that it was the mouse which freed the monarch of the forest from the net, and the trained ear was able to catch a dominant melody underlying the variations of the pipers. To reach the real results of the meeting, it will be necessary to eliminate many things mentioned, although properly because of the necessity of a broad formulation of the entire question, that the more specific propositions could be placed in their proper relations to the whole subject. Thus, for example, all discussion relating to a minimum preparatory training, or even the desirable preparation, belong to other organizations, especially to the Council on Education.

Not to mention all the results, the following may be emphasized:

1. The expression of the required qualifications of an applicant for licensure in terms of definite hours, months and years in any specific educational institution, is unwise, faulty in its philosophy, and a tyrranical exercise of the police power.

2. That it is better to teach the pure sciences, as pure science, and afterwards to make use of the knowledge so acquired, than it is to attempt to teach them from the first with distinct reference to their application in medicine.

3. A proper recognition of the above proposition will cause the medical school to eliminate these studies from their curriculum, which will raise the standard for admission.

4. Should this be too great an advance, then those students who can give evidence of having acquired these studies, should be admitted to advanced standing, if they be otherwise fitted.

5. That boards of Examiners are to blame for some of the pedagogic errors of the medical courses, because of the character of the questions set in their examination papers.

These are not the official conclusions of the conference. An excellent committee representing different interests was appointed to draft these, and they will be presented to the Academy at the annual meeting.

The above statements are the impressions made upon the writer and recorded at once, before he had the opportunity to consult the stenographic report of what was said.

Should these points be sustained by a more careful study of the transactions, then there is a field of effort which the Academy would do well to possess.

1. Demonstrate the evils of those medical licensing laws which define the standard of qualification in an improper manner, and show how an equally high standard can be maintained without the evils of the present law.

2. Precisely define which science studies should be put among the preparatory studies, and which belong to the medical course.

3. Examine and pass upon the courses of those literary and scientific colleges that profess to instruct in all the pure sciences for the medical course, and make note of those medical schools that exercise college comity towards the arts and science schools.

4. Endeavor to increase the spirit of college comity.

5. To regularly review and criticize the questions of medical boards giving examples of fair questions, to substitute for those condemned.

The attendance was not as large as is usual at the annual meeting, but compared favorably with that at the meeting at Chicago in 1905. It is a matter for congratulation, that the Academy was able to have present at the conference and take part in the discussion, such men as President Schurman, of Cornell; Chancellor McCormack, of the Western University of Pennsylvania; President Church, of Buchtel College; President Moffatt, of Washington and Jefferson College, not to mention the professors of other literary institutions, and several medical teachers of note. This mingling of the faculties enabled the conference to hear all sides, and to permit each side to have a glimpse of the question from the view-point of the other.

The conference will be found to have been of value only as it is followed up. An excellent beginning has been made and much good can be accomplished by moving forward in the opening way.

No review of the meeting would be complete without mentioning the courtesies of Directors Holland and Hammerschlag, and Librarian Hopkins, who personally conducted members of the conference through the various departments of the Carnegie Institute.

CHARLES MCINTIRE.

THE AMERICAN ACADEMY OF MEDICINE AND MEDICAL EDUCATION.

A PAPER INTRODUCTORY TO A CONFERENCE OF EDUCATORS UNDER THE AUSPICES OF THE AMERICAN ACADEMY OF MEDICINE AT PITTSBURG, PENNSYLVANIA, JANUARY SECOND AND THIRD, 1908.

CHARLES MCINTIRE, A.M., M.D., Easton, Penna., Secretary of the Academy and Chairman of the Committee to arrange the Conference.

In July 1870, a Pennsylvania physician sailed from New York for Europe to spend a winter on the Continent at the medical centers in post-graduate study. There is nothing so unusual in that statement to warrant its repeating, were it not for the train of events that followed. The physician, a native of the far-famed Cumberland Valley of Pennsylvania, was one of those, falsely so-called, self-made men, for we find that he was thirty years old when the college at Gettysburg (Pennsylvania College) gave him his A.B., while ten years elapsed before he received his doctorate from the University of Pennsylvania. It cost him a struggle to secure both, and he esteemed them more highly than many men do.

When, therefore, he found that an American doctorate was thought nothing of in Europe because there was no certainty of its representing anything, he resented it. His own costly possessions were too valuable at his own estimating for him to permit others to cheapen them. The same will-power that enabled him to persevere in securing his own education, impelled him to endeavor to rescue the American degree from ignominy. The American Academy of Medicine is the result of that determination.

It was to have been a society whose period divided initials, F.A.A.M., appended to one's name would indicate to the world at large, and especially to the Continental university world, that the possessor had a liberal and professional education fairly equivalent to that earned by the foreign doctorate. While building better than he had ever dreamed, this purpose of the Academy was never realized. The only result of the effort was to add a number of names to the roll, simply to record the fact of academic training. Many of these have never materialized in the history of the growth of the Academy.

At the first, the plan was to present and discuss subjects of general medicine at the meetings. This was soon abandoned, and the Academy would have been drifting had not the annual address delivered by its first president, emphasized the subject of medical education, and especially of the liberal culture preparatory to it. This theme was continued by his successors until it received the entire attention at the annual meetings. At last the Academy had found its place and its pace. The educational qualifications for membership, far in advance of any requirements, permitted its members to discuss these subjects without apology; especially was this true of the preliminary education. For a dozen years or more the Academy considered this subject until it was almost worn threadbare, and it seemed as if nothing more could be said.

Then it was, in 1892, that the Academy looked beyond and saw a fair field for research as yet uncultivated, and adopted the phrase "Medical Sociology" for its object at a time when sociology was not as trite a term as it is now. Notwithstanding its expansion of objects, it has always kept in touch with the progress of the requirements for medical education and especially with those which relate to the preliminary education.

For this reason, a few years ago one of the official boards dealing with the licensing of physicians, called the Academy's attention to the uneven and uncertain value of the courses leading to the first degree in our American colleges as preliminary to the study of medicine, suggesting that it be made a subject of investigation. This led to the appointment of a committee to report on the comparative value of the first degree in our American colleges.

This committee found it necessary to present reports on:

(1) In what should the preparatory education really consist.

(2) The difficulties caused by the iron-bound provisions of the laws for medical licensure in some of the states.

(3) What studies should be preempted by the medical school, and what branches would be permitted to be taken in the college.

From this investigation it was seen that there was little or no system in the relations between the baccalaureate course and that leading to the doctorate. As a consequence, frequently an injustice was done to the student having the better preparation. It was believed that an earnest and unselfish seeking would find a way to harmonize these courses to the mutual benefit of colleges and students. It seemed that the Academy was the organization to take the initiative. Its membership makes it directly interested in both courses of study; its previous researches prevent any thought of instituting an innovation. It can be both personal and judicial without being accused of selfish motives.

The excellent work of the Council of Education of the American Medical Association is along lines influencing medical education itself. It would be a hindrance to its progress were it to undertake what we are attempting. Yet, as college-bred physicians, we feel that the college should receive the attention its importance deserves, and because of this you have been invited to this conference.

We are not on the quest for a course of minimum requirements, nor for a concession course to reduce eight years to seven. We wish to determine the educational process most likely to produce at once an educated man and a student prepared to become a skilled physician, and to adjust the two courses so that everything will tell and no time be lost. We feel that the present is but a beginning; but having made that beginning, we hope you may emulate the perseverance of our founder and help us to keep at it until the way be found.

It is more than likely that in the discussion, some reference will be made to the requirements of some of the laws for medica licensure. I have had my attention called to these in the preliminary correspondence. May I be permitted to say that a discussion of these inelastic requirements is premature at this time? We have a complicated question before us, and do not yet know the conclusions we will reach. We may not solve the problem at this meeting. Indeed, it seems to me, that we will have made commendable progress if we shall be able to frame a series of conclusions to be published as tentative conclusions. Then, at some suitable time in the future, meet again and remold them into workable shape, into final shape, I was about to say, but finality too often is only fossilization.

It may appear, after our conference, that it is not an overlapping of the two courses, but an advance of the entrance requirements for the medical course, so that no high school can fit for it; that we may make a classification of medical schools into two classes, one of which will include those who insist on the more advanced preparatory training, and will appeal to the college graduate. Incidentally, the colleges also will be classified, one division including those who will assist the medical schools of higher standard by directing its graduates to them. Should this be a result of our deliberations, then these laws, unjust and unwise as they appear to me, will not be an obstacle to any harmonizing of courses we may be led to suggest.

Representatives of some of the colleges invited to this meeting, declined to take part because the Academy had no power to enforce whatever conclusions might be reached. Is it not a happy incident that we have not? For the most part, if not entirely, the laws for medical licensure as proposed to the various legislatures have been offered with an honest purpose of safe-guarding the people by providing properly prepared physicians. Many of the laws are open to the criticism of faulty methods to secure this safe-guarding, but not to a lack of honesty of purpose; and the legislatures have often marred the provisions presented before enactment, and have done so sometimes because of the influence of those whose motives were not so free from guile. On the whole, the laws in force are the best under the existing state of public opinion. A campaign of education, which will mold public opinion, can be undertaken by the Academy and will prove more effective than were even autocratic power in its possession to enforce its conclusions. Indeed, we are freer to invite you to present your views and to publish our conclusions. Because, should we err, our errors can be discovered and the end desired will be accomplished by the enlightenment following the dissemination of truth.

Except the set papers of the first session, which are presented by our own members, we are inviting you who have honored us by accepting our invitation, to take the lead in the discussion. The medical profession needs the truth from your point of view and we can present it to them. The stenographer's notes of your remarks will be submitted to you for revision before publication, so no one need hesitate in participating for fear of misrepresentation through the reporter's misapprehension of what was said.

The committee having the preparation of this meeting in charge, wishes to express its appreciation of the heartiness of your entering into our plans and of your coöperation, without which the meeting could not have been held.

THE MEDICAL CURRICULUM.

I.

CRITICISMS ON THE PRESENT MEDICAL CURRICULUM.[1]

By HENRY BEATES, JR., M.D., Philadelphia.

In the "Transactions" of the Fourteenth Annual Meeting of the Confederation of State Medical Examining and Licensing Boards—an organization that has to do with the *results* of "medical education," and especially their relationship with the affairs and great interests of humanity, in a legal sense—there is published the report of its Committee on Curriculum, which should be studied by every one interested in our subject.

The indefatigable chairman of that committee, Dr. George W. Webster, after a comprehensive and exhaustive investigation of the present medical curriculum (as he found it in each of the more than one hundred and fifty colleges in the United States) discovered and grouped numerous facts, and described proven conditions, that compel a criticism, the justice and correctness of which becomes more and more apparent, as they are studied.

Thus: THE PRESENT MEDICAL CURRICULUM IS A *COMPLEX*, MADE UP OF COURSES OF STUDY FOR THE MEDICAL DEGREE, NO TWO OF WHICH ARE ALIKE, EITHER IN VALUE OR MERIT.

This criticism refers directly to the demonstrated variation in the number of the sciences and branches which compose the curriculum of each separate institution; to the extent of study demanded; the methods of instruction in the respective subjects; to the time required for work in each; to the importance and relation of branch with branch—contemplated from the view-point of degrees of intrinsic value and to equipment; to the duration of the sessions; and to the educational qualifications of the students, which constitute an essential factor for the proper administration of any curriculum.

The significance and force of the criticism are clearly discerned by considering the following excerpts from the report:

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[1] Read at the Special Conversational Meeting of the American Academy of Medicine, Pittsburgh, Jan. 2, 1908.

Orthopedic surgery, in the University of Nebraska, occupies seven hundred and eighty hours of the time (and that too oft overlooked asset of the student, WEAR AND TEAR), and only thirteen hours in the Long Island College Hospital. What suggestions arise upon contemplating this fact, as to an intelligent adaptation of this subject with others of a curriculum limited to a definite number (4000) of hours.

In an important practical branch, obstetrics, for example, four hundred and sixty hours are required by the curriculum of the University of Tennessee, and but fifty-two in the Physio-Medical College of Texas.

What lesson is learned by the fact that in the Atlanta College of Physicians and Surgeons, general surgery consumes *2,221* hours, while in the curriculum of the Physio-Medical College of Texas, its graduates are prepared to practise surgery upon fellow-man, by a course which is completed in a total of but seventy-eight hours?

In these two colleges, general medicine occupies, respectively, nineteen hundred, and only seventy-eight hours.[1]

The present curriculum finds that important branch, pathology, requiring for graduation degrees of knowledge, varying in value from that which results from study and work demanding six hundred and forty-six hours in one college, to the utterly inadequate course covered in forty-eight hours, in another.

Of those apparently unappreciated and indescribably imperfectly taught essentials, comprising the so-called fundamental sciences of the curriculum (the neglect of which cannot be too severely criticized and unsparingly censured), anatomy, the grand foundation of medicine, occupies from twelve hundred and forty-eight hours in the University and Bellevue Hospital Medical College, to only one hundred and twenty-six in the Texas institution above mentioned.

In physiology the present curriculum demands, from the highest, of seven hundred and fifty hours, by the Atlanta College of Physicians and Surgeons, to the startling lowest, of only fifty-six hours, by no less a school than the University of Virginia.[1]

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[1] The Atlanta College curriculum embodies ten thousand hours.

This fundamental science is, if possible, even more neglected than Anatomy, and almost entirely overlooked in its application to the elucidation of the phenomena of the so-called practical or major branches. Without a knowledge of the principles and laws of this science, it is impossible to understand pathology, disease, and treatment.

What can be stated of chemistry? Every curriculum includes this science, but when inquiry is made, the teaching of chemistry, as applied to medicine, is scarcely to be discovered. Here and there a feeble attempt is being made to teach that phase of chemistry which every thinking person knows is the proper and only knowledge of the science that should engage students of medicine. Organic and inorganic chemistry, as such, should not be a component of the MEDICAL curriculum. Mastery of the principles of this science should be a requirement for *entrance* into the medical college, so that CHEMISTRY NORMAL TO THE MEDICAL CURRICULUM should occupy the time and energy of the class.

Well, to resume; chemistry, as it is taught, occupies from seven hundred and fifty-six, to as few as only seventy-eight hours—and it may be here remarked, that occasionally (*what should never be*) the professor of chemistry in a medical faculty is NOT a medical man.

Bacteriology consumes from six hundred and sixty, to only twenty hours. Thus is the truth of our first criticism substantiated.

The next prominent feature of the present medical curriculum comprises what may be compared with a group of neoplasms, which, when in and on a human body, exerts a profound and pernicious influence. Histologically (if the figure may be indulged), we diagnosticate the tumor, for illustration, "neurology." This reaches its growth, according to the type presenting, in from three hundred and twenty-seven hours, to only ten; and its malignancy is proportional.

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[1] This school has recently accorded between four hundred and five hundred hours to Physiology; 434.

The neoplasm composed of dermatology and syphilis, according to its malignancy, reaches maturity in from four hundred and forty hours of the curriculum, to only ten. Growths of laryngologic and rhinologic structure require from four hundred and thirty-two, to sixteen hours for "completion." Genito-urinary work seems to be apportioned somewhat by the environment of the college and the prospects of its graduates, rather than by sound pedagogic principles, for the curriculum requires from four hundred and forty-eight hours as a maximum, to four as a minimum of work deemed necessary to fit the practitioner to recognize, diagnosticate, and properly treat these diseases.

Finally, for those about to become practitioners of the healing art, we find that for medical jurisprudence, instruction and study is accorded from seven hundred and seventy-five hours, to none. The minimum *recorded* requirement is FOUR hours. Here we have proof of that want of appreciation of the relative values of the different branches, which explains why such glaring defects prevail, and rob the medical curriculum of intrinsic value—the medical degree is necessarily wanting in a normal and approximately uniform standard of qualification. These variations in work demonstrate the lack of intelligence and the general unfitness of a large portion of the administrative body to serve as teachers of the medical sciences, and instructors in those principles upon which the medical student is supposed to be able to cultivate his art.

Whether specialties, as such (in contra-distinction with their involved fundamental principles, which are naturally included in the main branches), should occupy a place in the curriculum, is a question rather specifically pedagogic; and yet, because of the defective system prevailing, it is at least permissible to raise the point. Certain it is, that to accord to "specialties" a place in the curriculum which COMPELS THE UNDERGRADUATE TO SLIGHT THE WORK THAT MASTERY

OF THE FUNDAMENTAL PRINCIPLES NECESSITATES, is to construct and administer a medical course that is weak to a dangerous degree, and a condition for the most severe criticism and prompt correction.

Time need not be occupied with additional facts. What a "COMPLEX" the present medical curriculum is, has been incontrovertibly demonstrated. Furthermore, it is shown what great variations in degrees of value the M.D. embodies. One prominent fact is, that there must be as a consequence of the present medical curriculum, a "unit" of knowledge which, in value, is of ONE HUNDRED AND FIFTY DIFFERENT STANDARDS OF QUALIFICATION, AT THE TIME WHEN THE CEREMONIES OF CONFERRING THE DOCTORATE ARE IN PROCESS!

Here permit allusion to the legal control of the practice-right, because, as the public becomes enlightened, and begins to understand its significance, that happy middle ground situated between the ideal and the commercial will, in the near future, find this right to practise medicine conferred by law upon those, only, who, in a legal sense, are adjudged to be "reputable." The present statutes, paralleling the present curriculum, presume that the diploma is a proof of reputability; and in order that the point here involved may be comprehended, quotation is made of the legal definition of "reputable." "Applied to a college (curriculum) it has reference (among other considerations) to the thoroughness of the course or courses of science prescribed and taught in said college, and to the *CAPACITY* and qualifications of the said *TEACHERS* therein."

In the light in which the present medical curriculum is thus seen, and being regarded in a general sense as the national standard of medical education, may not the question be propounded, *IS* the present medical curriculum reputable?

"To prepare us for complete living," says Spencer, "is the function which education has to discharge, and the only rational mode of judging any educational course, is to judge in what degree it discharges such a function." In connection with this truth, associate another part of the legal definition of "reputable." It has reference to the STANDARD of SCHOLARSHIP and PROFICIENCY in said sciences required of the students as a condition precedent to the issuing of DIPLOMAS."

Is it not a well-known fact that "DIPLOMAS" are awarded to students who are so deficient in education and culture as to be utterly incapable of comprehending medical science?

Without that education "which prepares us for complete living," and without two essential factors—one, a *qualified faculty*, and the other, a body of *qualified students*, *IT IS ABSOLUTELY IMPOSSIBLE TO ADMINISTER A REPUTABLE CURRICULUM*; therefore, at this hour—if the weak link of the chain is estimated correctly—the conclusion is unavoidable that the standard of medical education—its actual intrinsic value—is dangerously and deplorably weak.

Although much more can be contributed from the unfortunately large supply of facts that would add to a realization of the inadequateness of the present medical curriculum, time necessitates brief criticism of the manner in which the science and branches composing it are taught. A broad and general criticism must include the highly censurable and apparent neglect of the relative value and importance attaching the respective subjects. This inexcusable deformity is already so conspicuous, from data presented, that nothing more is needful, except to ask especial and impartial consideration of the faults which are so apparent.

That the individual professor of a faculty, as a rule, dare not indicate the practical and applied features of his one sphere, as related to one or more of the other sciences or branches, savors of a childishness and petty jealousy, or what is worse, an undignified abuse of official prerogative, that should precipitate discipline, or even dismissal. These surprisingly prevalent inter institutional "wars" should be stopped; they endanger the profession. Why, for example, should it not only be a privilege, but a duty, for the professor of anatomy to teach, in addition to abstract anatomic facts, the practical and applied *uses* of these facts—otherwise so perfectly demonstrated—without precipitating upon him objections from the "chairs" of physiology, medicine and surgery, who may presume to accuse him of encroaching upon their territory?

The reverse may also be asked, We all know, or at least SHOULD, that such a "state of affairs" too commonly obtains! What this means in defeating the science and art of teaching requires no further comment.

Now, as to "fundamentals:" as has been tellingly formulated by our Fellow, Dr. Motter, "structure, composition, and function" compose the sure foundation of all superstructure. It is apparent to each of you, that to memorize a series of phenomena, arrange them in groups, and repeat them, constitutes a mere naming of this or that disease, is practicable without either knowledge or understanding, and possible to the average mind. It should be equally plain, and thoroughly understood, that one, so doing, may be utterly ignorant of those fundamental sciences and their principles, without which it is an absolute impossibility to know, understand, or comprehend any one of the symptoms so glibly mentioned. In other words, it is possible for a graduate, with even startling brilliancy, to repeat in accurate detail the symptoms of this or that disease, deformity, or injury, and not know anything about the subject, because of the imperfect teaching of "structure, composition and function," and their neglect in the curriculum. What need be said about the proper relation of these fundamentals with the major branches, that should obtain in the curriculum? Think, gentlemen, of the "Diogenes in his tub" rule, that confines the respective professor of each fundamental branch to his narrow territory. Contemplate the "Alexander principles" of pedagogy, and then conclude what is vital to the necessities of the present medical curriculum—if as too commonly obtains, the chair of medicine, obstetrics, or surgery, because anatomy is not *adequately* taught, is compelled to interrupt his legitimate work, in order to first teach his class the *applied anatomy* germane to his subject. This necessity constitutes an ever-present fault, and intrudes a subject that may most advantageously engage the attention of this Academy. The same criticism is equally applicable to each of the "fundamentals."

Do not forget the pedagogic principle, and the need for its incorporation in the official supervision of the proper administration of the curriculums, which renders it advisable for each of the professors to teach the applied features, not only of the fundamentals to the "majors," but also of the "majors" by the "majors," and for the "majors" with the *fundamentals.*

The present medical curriculum should not permit of divided examinations, whereby, at the end of two years, the fundamentals may be eliminated by "passing," and then, with credits recorded, be dropped, and, as things are, *forgotten* entirely, by the time graduation shall have been reached. *The fundamentals should be perpetuated* THROUGHOUT THE FULL FOUR YEARS; not in the manner of the first two years—which might be designated as *preparatory fundamental work*—but as *applied fundamental principles.* This most vitally important point, it is hoped, will engage the careful and intelligent attention of the Academy. It constitutes, without doubt, the most glaring and conspicuous fault of the hour.

That there is, almost without exception, an utter disregard for the necessity of coordinating the teaching of the respective sciences, one with another, forces an additional criticism. Why is not effort exerted to so arrange the lectures and study, so that, for illustration,' anatomy, when dealing with the blood, will find histology treating of the same, and also pathology, chemistry, medicine, and therapeutics?

True, this "dove-tailing" is not practicable with many subjects, but why not so adjust conditions, where *it is* easy of accomplishment? It is surprising to what a great degree such a plan is practicable. Differently expressed—the criticism is well made, that the science and art of teaching have not received that trustee or faculty consideration that could honestly be regarded as pedagogic. Too much stress is laid by the "hobbyist" upon this or that "fad"—another form of abuse of prerogative; and students are too commonly forced to slight work of vital importance, in ESSENTIALS, in order to make a grade in some relatively valueless subject, or fail of graduation. This is a criticism which investigation will find appropriate and justifiable.

From this brief review, it is evident that the present medical curriculum is a *MONSTROSITY*. To remodel it is the crying need of the hour. Sound pedagogic principles must guide in the great work with which the profession is confronted; fundamental principles must be given their proper valuation and place; method, or the art of teaching, demands especial reformation; the relative values of knowledge require most skilful and intelligent adjustment; and the authority of official or administrative right should be intimately associated and properly related with faculty, both individually and collectively.

No. 260 S. 16th Street.

II.

THE ESSENTIALS OF A MEDICAL EDUCATION.[1]

By Murray Galt Motter, A.M., M.D., Washington, D. C.

One needs no better warrant for the hope, nay, the belief, that we are entering upon a new era in medical education, than is to be found in the papers, the discussions, the action of the past year or so. It is especially significant that these questions have been taken up by the lay press, which has emphasized three points well worthy of note: the lack of adequate preliminary training, the necessity for an intelligent public opinion in support of medical legislation and higher medical education, and the responsibility of the profession in creating and directing such intelligent public opinion to the needs of the hour.

In essaying such a large subject, I would beg to remind my hearers that the task has been assigned to me as but a part of a prearranged whole. The theme, it will be observed, is specific, and, in a conference such as this, the implication as obvious that our present scheme of medical education includes some thing, or things, not essential. Without trenching too far upon the territory assigned to the first paper on our programme, I would submit that much of what is called medical education is merely medical instruction, and that, whereas we have a most abundant superfluity of medical instruction, there is in reality rather a dearth of medical education. While, of necessity, education involves and includes instruction, it by no means follows, of like necessity, that he who has been instructed is thereby educated.

They who have made a study of the history of education have pointed out that it falls naturally into three great periods: Oriental, Classical, Christian. Judging by the results, as seen in the state board examination room, one is led to the conclusion that present-day medical education, so-called, has progressed but little beyond the earliest stage of the Oriental period. It is a prime characteristic of the Chinese system that "it does not aim at a development of the human faculties—it is simply a cramming of the memory." The great number, and even greater popularity, of quiz compends, epitomes, examination helps, etc., are sorry evidence of the extent to which the mere memory method is being cultivated. But this is not the fault alone of medical educational methods, nor even of American educational methods. Last May, at the meeting of the Association of American Medical Colleges, the charge that our schools and colleges do not provide a proper and substantial foundation upon which to build a professional education was vigorously challenged; and yet, within the past few months, much the same sort of protest has been heard on both sides of the Atlantic. The President of Princeton University, addressing the Association of Colleges and Preparatory Schools assembled in annual convention at New York, November 29th, is quoted as follows:

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[1] Read at the Special Conversational Meeting of the American Academy of Medicine, Pittsburgh, Jan. 2, 1908.

> We have been passing through a period of dissolution of the standards of education . . . The children of the last two or three decades have not been educated. The pupils of our colleges of the last few decades have not been educated. With all our educating we have instructed nobody, and with all our instruction we have educated nobody. . .
>
> We must remember that information is not education. The greater part of the work that we are doing in our colleges today is to impart information. . . One of the principal objects of education should be enlightenment, or the unloading from the minds of the pupils of the misinformation that they have received.
>
> Instead, we are daily cramming their minds with an enormous mass of irrelevant facts.

This, with regard to schools and colleges in general; but we have only to turn to the Proceedings of the Association of American Medical Colleges to find much the same allegations as to the unsatisfactory state of medical education.

If it may be said that it is the purpose of education in general "to train body, mind and heart for the emergencies of life;" this may also be said, even more specifically and appositely, to be the purpose of medical education. Viewing the varied and multitudinous duties and responsibilities of the twentieth century physician, one realizes indeed his great need of a sound body, a sane mind, and a stout heart. The many unrequited services of physicians, to the poor and needy, have long been recognized.

Few, however, realize the many and increasing, also to a large extent unrequited, demands made upon the physician of to-day for public service—service which requires special knowledge, broad information, and a training, a temperament, one might almost say a cultus, not easily acquired. The warfare against disease and dirt, ignorance and chicanery, sophistication and adulteration, in short the problems of personal and public hygiene, can be successfully dealt with only by medical men of high intelligence, sterling integrity and unselfish devotion.

Surely, the history of American medicine refutes the idea that only the college-bred man can measure up to the full demands of the profession. And yet—we must not live in the past but on it. If we would make progress we must go on and up. The public demands that we be better trained, and the answer to this call is to be found in the increasing requirements which are now, and are yet to be, exacted of their matriculants by a growing group of medical schools.

One of the strongest arguments against higher requirements has been, in large part, on economic grounds; the argument that such requirements involve a larger expenditure of time and money; that the establishment of a home and the maintenance of a family must be deferred until a competency be assured. We are not advocates of celibacy, in this or any other profession, but we must recognize, here as elsewhere, in evolutionary processes, the law of the survival of the fittest. The trouble has been, it appears to me, that we have not begun early enough to shape the fit. I cannot escape the conviction that the problem of medical education lies, not so much in the medical curriculum, *per se*, as in the preliminary training best fitted to enable one to profit thereby.

Above, beyond, and aside from any question of mental or physical attainment, let us put the moral qualification. He who would take, and live by, the oath of Hippocrates should be a man of character, strong and pure, of individuality, keen and independent, and of a high sense of responsibility—to himself, to his fellow man and to his Maker. Is this too much to ask of him who, from cradle to grave, in private and in public, is to be the most intimate and trusted counsellor? Do the schools and colleges of the country lay such a foundation for the superstructure of medical education? Is it not a fact that a large proportion of students entering the smaller medical colleges, at least, are lacking in a sense of responsibility, in intellectual independence, and in that sturdiness of character which impels its possessor to pursue with unremitting vigor and diligence his chosen calling? For answer, I would point you to the closing paragraphs of the address at the opening of the seventy-seventh session of the Albany Medical College; or to the practice adopted a few years ago at another school, a little nearer home, where each student was required, before the end of the lecture or exercise, to hand to the instructor a signed coupon as evidence of his presence during the hour.

I trust that I may not be misunderstood; I do not wish to assume a pessimistic attitude, nor to condemn the schools, whether preliminary or professional, indiscriminately. But—if all were well in the educational field, we should not be assembled here today, and I think we must face, honestly, squarely and temperately, the facts that the preliminary training of the average medical student is inadequate, and that the problem of a satisfactory, well balanced, adequate medical curriculum, adequately and honestly administered, has not yet been solved.

Aside from the mere question of cost, whether in time or in money, I fancy no one would say that the physician can be too thoroughly prepared for his life work. A full classical course, supplemented by a post-graduate course in the modern languages, chemistry, physics and the biologic sciences, might, from one standpoint at least, be an ideal preparation for the *study* of medicine; but is it essential? Surely not, nor is it by any means certain that, as a routine course, it would be the best preparation for the prospective *practitioner* of medicine. One of the greatest difficulties hitherto, in reaching a decision as to a combination of these courses, has been a lack of appreciation of the needs on both sides—of the preliminary schools on the one hand, and of the medical schools on the other. This difficulty can be overcome only by some such conference as that in which we are now engaged. We cannot hope to solve all the problems here and now, for they are many and great, but we can join hands with those who are already at work upon them. We can lend our aid and our influence in the formulation of an educational scheme which shall be more simple, more thorough, and more honest than that which now prevails.

If any apology be needed for this apparent transgression upon the second part of our programme, it is to be found in the unqualified statement by the Council on Medical Education, that "the weakest part of our system of medical education to-day is the low standard of preliminary requirements." We have too long been "likened unto a foolish man, who built his house upon the sand." With this plea for a more adequate preliminary training, let us turn now to some consideration of the professional training.

Rail, as some may, at the methods by which the efficiency of our medical schools has been measured "with a foot-rule and hour glass," the results of the recent inspection of the one hundred and sixty medical schools of this country are enough to give us pause; in round numbers, twenty per cent. were rated below 50, thirty per cent. between 50 and 70, and only fifty per cent. above 70. The results of Dr. Means' summary of all examinations in some fifteen states in 1905, lead him to the conclusion "that the average man licensed to practise medicine [not the graduate but the licensee] is deficient in knowledge in anatomy, physiology, pathology and chemistry, and when we consider the elementary character of the examinations the deficiency is more apparent." The same conditions were found by the Committee of the New York Department of Education and by the Council on Medical Education, which reports that "the weakest point in the equipment and teaching facilities of medical schools is, naturally, the lack of laboratories and equipment for the work of the first two years of the medical course, or, as they are often called, the fundamental branches." Here again we have been building upon sand. As was remarked, at the June meeting of this Academy, how one can expect to practise medicine intelligently without a comprehensive and lasting knowledge of the structure, composition and functions of the body, passes all comprehension. And yet, the older men, who seek registration in another state by virtue of years of practice, frankly admit that they cannot pass the examinations in these fundamental branches; thus they find the same level as the recent graduates, whose low ratings in these branches indicate that we have not yet hit upon a sound method of making them a substantial and lasting part of the students' equipment.

The fact is now pretty well recognized, or should be, that men cannot hope to teach these subjects efficiently and at the same time engage in general practice. That they should, however, have some connection with a teaching hospital, or, that they should at least keep in close touch with their colleagues of the clinical staff, is highly desirable. When the anatomist, the chemist, the physiologist and the pathologist confer more frequently and earnestly with the clinicians—internists and surgeons alike—we shall have a more effective community of interests, a more intelligent appreciation of the standpoint and problems of each, a more illuminating and enlightened correlation of the several parts of the medical curriculum, and, as a consequence, a more enthusiastic, because interested, body of students.

The suggestion of Dr. Shambaugh, though made not in this immediate connection, that our specialists qualify through a post-graduate course leading to the degree of Ph.D., is most timely and we should look, and prepare, for the time when no one will be considered to be competent to teach any branch of the medical curriculum until he shall have made special preparation for the work by some such course. On the other hand, may it not be questioned whether the Ph.D. who has taken his doctorate in anatomy, chemistry, physiology, etc., without having first completed the full medical course, is, in these branches, the best teacher of medical students? Indeed, it is a serious question, in my own mind, whether at least some experience in actual practice is not absolutely essential to the most efficient work on the part of the medical teacher. A sound training in fundamental principles is of the utmost importance, but, unless there go with it some indication as to their correct application, all is in vain. What does it avail a man to be able to name all the branches of the celiac axis if he have not a clear conception of the relations and functions of the hepatic artery? What difference does it make whether there be five million or five hundred red corpuscles in each cubic millimeter of blood, if we do not know their relation to the oxidation processes in the tissues?

In anatomy, perhaps more than in either of the other "fundamentals," there must be a good deal of memorizing; but why should we hoist the memory upon such wretched mnemonic crutches as "On old Moriah's pointed tops a French and German picked some hops?" Let us attack the cranial nerves as we would the multiplication table (though even this seems to have become unpopular of late), or, better still, let us study them in their physiologic and surgical relations. "The only substitute for the power that overcomes obstacles is the enthusiasm before which obstacles disappear." In physiology, on the other hand, he who trusts to mere memory is lost. Unless the student be trained to reason out his physiology, his time and that of his teacher is wasted; but, when so taught, I know no better cultural subject in the whole medical curriculum, nor any better fitted to train the student for his future work in physical diagnosis. In none other is the weight of mere "text-book larnin' " and authority so light; in none is the value of keen, accurate, personal observation so clearly proved.

It would be impossible, within any reasonable limits for a paper of this kind, to discuss each subject in the medical curriculum. My plea is that these elementary medical sciences must be taught more thoroughly, even if less extensively; our knowledge of them should be deep and clear, not broad and hazy. To this end, they cannot be dropped at the end of the second year, nor of the third nor of the fourth; the study of anatomy must be continued at the bedside, on the operating table, and in the post-mortem room; of chemistry, in the clinical laboratory; and of physiology, at all times and everywhere.

As to the rest of the curriculum, is it not time to recognize the fact that it is tremendously overloaded, and especially with " 'ologies" well nigh innumerable? Think of it! we have dermatology, gynecology, laryngology, ophthalmology, otology, proctology, rhinology, syphilology and zoology—each with a staff of head professors, associate professors, assistant professors, associates, assistants, instructors, lecturers, demonstrators until the poor student cannot even think of them all, much less of what they are trying to teach him. Would it not be well to subordinate most of these to the major branches with which each is logically related and then banish all the rest to the post-graduate course? As Dr. Shambaugh so well puts it, "The problem of our medical schools is to provide the right sort of training for the men entering on general practice. The work of preparing men for special practice is quite distinct from this and forms no part of the preparation for general practice." Or, as some one else has said, "The most that the general practitioner need know of the specialties is when to send for the specialist," and, if Dr. Shambaugh's suggestion is acted upon, we shall soon have no doubt as to which specialist to send for.

There is one of the "ologies," however, for which a special plea should be made and to which more room and more time should be given; this is one of the youngest, and certainly the most neglected, members of the family. While we have made notable progress in the study of the causes and prevention of disease, we know almost nothing of its cures; we have not even followed the light we had. The proportion of medical men who have even a speaking acquaintance with the United States Pharmacopoeia and the National Formulary is amazingly small. We have made a fetish of therapeutics, yet we know little or nothing of pharmacology. There are possibly less than half a dozen institutions which have a genuine pharmacologist on their staffs, and it is reported that there are at least a half dozen universities at the present time seeking men to devote their time entirely to pharmacology, but the supply is not equal to the demand. As shown, in the able paper of Prof. Sollman, the study of the actions of drugs cannot be undertaken intelligently "until the student is well advanced in anatomy, physiology and pathology;" while "The details of therapeutics can only be studied, in connection with the clinical work, in the wards and dispensaries." Prof. Sollman also emphasizes the fact that it is far better to learn a few things thoroughly than a greater number of things indifferently. In the discussion on this paper, Dr. Long points to the value of pharmacology in developing the reasoning powers of the student, and adds that the readiness with which physicians resort to the use of proprietary medicines is largely the fault of the medical schools. Surely, if, on a basis of five thousand prescriptions examined, it is found that an increasing proportion, amounting to forty-seven per cent. in 1906, are for proprietary medicines, "it is high time to awake out of sleep," and place the study of drugs on a rational basis, that this reproach may be removed from us.

Just a word, in conclusion, on the subject of examinations; at best they are but a poor test of the candidate's capacity and ability. It will not do, however, to lay the onus of inadequate and incompetent examinations upon the shoulders of the state boards alone. It has been shown that much the same methods, with the same results, prevail among the schools. Wherever possible, an effort should be made to substitute practical, laboratory or clinical, examinations for the oral and written makeshifts which put a premium upon cramming and dishonesty. In the schools, closer and more frequent contact between teacher and pupil is greatly to be desired; with this it should not be difficult for the teacher to arrive at a fairly accurate estimate of the student's knowledge, progress and ability. As for the boards, until the facilities of the large public hospitals be placed at their disposal, they will remain crippled in this part of their work. In view of the facts that the need of practical examinations is so widely recognized, that the members of the state boards are officers of the several states, and that the latter make large appropriations to the hospitals, it would seem that this problem should find an easy and prompt solution.

As a measure supplementary to the final examinations in the schools, I beg to suggest a return to the old practice of requiring from each candidate for the degree the preparation and defense of a thesis. It seems to me this offers large possibilities for good, with a minimum chance of evil. Of course it is always possible to procure theses in the "market," but it would scarcely be possible for a candidate who had bought his paper to defend it against the onslaught of an examination based upon the work which it is supposed to represent.

Finally, above all else, it is essential that the members of medical faculties be honest, even perhaps relentless, in passing upon the qualifications of their students; they know full well, at the end of the second year, whether or not the student is prepared to take up the so-called practical branches, and it is folly, approaching felony, to pass an unprepared student into the advanced classes, there to lose his time, his money and, ultimately, his self-respect and his respect for the institution.

If, then, I were to sum up some of the essentials of a medical education, it would be somewhat in this wise:

I. An adequate preliminary training.

II. A medical curriculum based upon sound pedagogic principles, well balanced and closely correlated throughout; a simplified course in which quality of work should have more weight than mere quantity.

III. The more careful selection and training of medical teachers and a greater degree of cöoperation between them.

IV. The subordination of the specialties to the major branches with which they are logically connected, the refinements of special practice being relegated to the post-graduate course.

V. The substitution, in so far as possible, of practical for oral and written examinations, with the preparation and defense of a thesis as a requirement for graduation.

VI. Finally, I quote from the chairman of the Judicial Council to the Association of American Medical Colleges, in annual meeting assembled: "Make your examinations at the end of the second year HONESTLY, and require those men who cannot pass their examinations to go back or get out."

III.

THE AMERICAN MEDICAL SCHOOL AND ITS ENTRANCE REQUIREMENTS.[1]

By DAVID STARR JORDAN, M.D., Ph.D., LL.D., President Leland Stanford Junior University.

The practice of medicine is no longer a trade but a profession. It is an art having its basis in science—an art of the greatest delicacy resting on science the most exact and the most profound. The time is past in which medicine can be taught as a trade, even in free America, which has no statutory provisions to compel professional men to be enlightened or honest or competent. But the nature of the subject and the necessities of the people demand that this work be done in the best possible way. Medicine must be taught by the methods which science teachers have found most effective and the study of its practice must follow a thorough knowledge of the sciences on which its art depends.

For these reasons, the old-fashioned medical school of America, the association of physicians working without pay and without endowment, dealing with students ignorant of science and literature, is passing away. Medical instruction is resuming its place in the university, where it has the benefit of university standards, university endowments, and the university atmosphere. Of the many scores of medical colleges existing in America today, only those can live which become integral parts of universities. The rest have ceased to be useful and so far as medical science is concerned most of them are positively harmful, and this remark applies as well to those which without real university standards maintain a nominal connection—for purposes of advertising—with some local college.

The essentials of medical instruction are well equipped laboratories and hospitals, competent teachers, a standard of admittance, which shall exclude the ignorant and those incapable of scientific conceptions, and a high standard of graduation which shall exclude unworthy men from the professional degree. Our universities are able to demand and to supply all this in their treatment of engineering. A few have done it in law, and most successfully, and a few have been able to do the same for medicine. Others might do it were it not for the one bugaboo—the fear of the loss of numbers through the maintenance of standards. Too many boards of trustees and some administrators still look on higher education as a game in which the scores are made by the number of degrees granted or the number of names in the catalogue. The very purpose of standards is to reduce numbers by shutting out from academic honors those who do not deserve them.

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[1] Read at the Special Conversational Meeting of the American Academy of Medicine, Pittsburgh, Jan. 2, 1908.

It is doubtless true that the young man of 18, the graduate of a high school, can follow the study of medicine with some intelligence, and that he can learn a little of science while in the medical school, in a year devoted to elementary chemistry, physiology and anatomy. It is also obvious that this equipment does not give the spirit nor the view-point of a scientific man and that the three remaining years of pathology and clinics will not make a scientific physician nor give to this, the most complex and most exacting of professions, a training to which the university can afford to set its seal of approval.

The four years of a college course spent primarily on physiology, biology and chemistry, and secondarily on languages, literature and history, do give such training in generous degree. The requirement of the degree of A.B., with scientific studies as major subjects, is required as a prerequisite for entrance on a four years' professional course in medicine by our strongest institutions. In criticism of this policy it is urged that the average student enters college at 18, four years of college and four of professional study bring him to the age of 26 before leaving school, even though his course goes on without interruption. It is further truthfully urged that the requirements for the bachelor's degree to-day are fully two years in excess of those prevailing twenty-five years ago. It may further be said, that a large part of the virtue of the university training comes from life within the university atmosphere. The student in medical work or in other professional study participates in this atmosphere, he helps to create it, and his relation to it as a graduate student is even more vital than that of his collegiate days. Hence, a university can well afford to abate its undergraduate, or non-professional requirements, in favor of the student who is to continue for an advanced period in professional or university work.

In accepting the justice of part of this argument, ably set forth by President Eliot and by President Butler, the requirements for the degree of A.B. have been in some institutions reduced so that a competent student may receive this degree after three instead of four years of undergraduate study. Other institutions have reached the same result by such an arrangement of the work as to devote the senior undergraduate year to independent investigation or to the beginnings of professional work. In medicine, this provides that the fourth year of collegiate work shall be the first of the four years of medicine. In other words, it gives seven years from the secondary school or high school to the university degree of M.D., and to the present writer it seems that the university should not be satisfied with anything less than this.

There is, however, another forward tendency in university management, which must be reckoned with in this regard. There is a natural cleavage line in our undergraduate courses at the end of the Sophomore year. The Junior year of college represents in maturity and in requirements approximately the first year of the German universities. It is the year when the student begins to be independent and to shape his studies with more distinct reference to his future career. Hence these first two years of the college course have been set apart from the others in some institutions as the Junior college, while for the two higher years the name of University college has been suggested by Dr. Harper. Dr. Harper went farther to suggest a degree or, as we may say, a half degree—Associate in Arts—for those who have completed the work of the Junior college, but this suggestion has met with little favor. We hear too much of degrees already in our educational system. Conditions would be healthier in many ways if we could eliminate the degree in general culture—leaving only the professional degree of Doctor and Engineer—in the various branches.

It is believed by some, the present writer among others, that the universities of America should begin with the Junior year, leaving the Freshman and Sophomore years to the colleges and the larger high schools and preparatory schools. By this arrangement all work of the university should be regarded as professional, confined to such subjects as are needed for professional training, and the profession of teaching among the rest, with such other subjects as may give breadth of vision or personal satisfaction, but not counting as constituents of a degree.

In this case, the course of medicine should be lengthened to five years, by the inclusion of courses in science. The course in law should be lengthened to four years, by inclusion of history, economics and political science, and a similar extension should be made in the courses in engineering. These are now in most American universities crowded into four years regardless of the fact that more than four years work is actually required. By this requirement all studies of literature and humanities are virtually relegated to the high school; as a result, if the successful engineer does not grow up illiterate, it is not because of any effort of the university. His literary culture he must pick up as he can and through his own efforts and his association with students in this regard more favored.

The final settlement of this matter, in my judgment, will be along the lines indicated above. Meanwhile, the requirement of a single year of collegiate chemistry and biology as a prerequisite to entrance on a four years' medical course may be a necessary step in advance. But it is only a step—a short one and a temporary one. The requirement of two such years is a further step in advance—twice as long, and therefore twice as valuable. There ought to be some way of indicating our official disapprobation of the medical departments that do not take it, and for a time its results will be reasonably satisfactory. But we must go farther. If we do, we may turn our Senior year over to pre-medical science, or we may require a degree with chemistry or physiology as major subject before beginning on medicine at all, or we may begin all professional work with the third or Junior year of the present American college, in which case we may strengthen the medical course with another year of further scientific requirements and further clinical experience at the end. On the whole, this last plan seems to me most nearly in the line of the development of the American University system.

IV.

A PLEA FOR THE IMPECUNIOUS MEDICAL STUDENT.[1]

By Roland G. Curtin, M.D., Philadelphia.

The length of time required for the study of medicine has been gradually extended, and now some of the profession propose to lengthen it still further. Look at the conditions existing in some of our schools at the present time, where they require a college degree on entering. The poor boy with denials and difficulties, labors to prepare himself for college and enters, perhaps, at the age of nineteen. He graduates from college at the age of twenty-three. Now add four years more, the number required in the medical school; he then obtains his degree in medicine at the age of twenty-seven. Next, he will probably spend one or two years as a resident physician in a hospital; so that at the age of twenty-eight or twenty-nine, he commences to practice. *It will probably take him five years before he is able to make a living, and he will then be about thirty-three to thirty-five years old.* His most active period of life is almost over; and later, as activity begins to wane at about the age of fifty-five years, this will give him only about twenty years to make a living in and set aside something to keep himself in his advanced years. What a prospect for a poor young man! What a struggle will be required for him to pay for tuition, board, office-rent books, instruments, and other necessary expenses, during his studies and while waiting for practice, through his own unaided efforts!

With this picture in mind, you will appreciate some suggestions as to how the impecunious student might be assisted, and the profession prevented from being left entirely in the hands of rich men's sons, who are not always the most energetic practitioners. Those who would be good, competent investigators, able teachers, or earnest practitioners are often kept out of the field of medicine by the severe initial tasks before them and the small financial recompense offered in the future. It occurs to me that this may be partially remedied in three or four ways.

In Germany quite early in the preparatory schools, boys are started on the path toward their life's work and prepared for their professional education. For instance, the boy who is to be an engineer is started with studies such as physics and mathematics; one who is to study medicine is instructed in elementary physics, physiology, hygiene, botany, and chemistry. Thus, when the future doctor goes to college, he is quite advanced in the general work of medicine. In this country, all excepting those taking a biological course pursue the same studies in their collegiate course, no matter what their future occupation is to be. By the method above mentioned, the college and medical courses could be shortened, by commencing the necessary elementary studies earlier. I think that this arrangement is worth considering, for I believe that, as a rule, the older a man is when he begins his professional life, the less aptitude he has for work, and the less successful he will be in practice.

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[1] Read at the Special Conversational Meeting of the American Academy of Medicine, Pittsburgh, Jan. 2, 1908.

Another way that the poor young man might be assisted in his medical studies is by having in each State at least one medical department of a university in which a man could obtain a medical education free. This would be a great help, as in some of our schools the tuition alone, for the four years, foots up to eight hundred dollars. We have no free medical school in Pennsylvania. Why could not one or more of our medical schools unite with our State College and get the support of the State? Or, again, why could not the State endow scholarships for their benefit? What charity could they select that would yield greater benefits to mankind in general?

I have known a number of doctors that could not afford to send their sons to medical schools, although they greatly desired to do so. I have been pained to see the privations that some medical students have encountered in order to get a medical education, putting up with squalid quarters, half clothed and half fed, worried and overworked; and I have known several that have fallen by the wayside and died. One poor fellow, who had worked at cigar-making from six o'clock in the afternoon until two o'clock in the morning, after a hard day's study, and was dying of consumption, just six weeks before graduation, said: "Doctor, I have worked hard for my degree; and now, when about to secure what I most wished for, I am about to die. Can't you get the faculty to give me my degree? Won't you please, dear Doctor, ask them to give me the happiness I crave before I die?" Within two days, the martyr died without having had his wish gratified. Poor fellow! He had worked night and day and, in so doing, had wrecked his constitution. My sympathy for such young men is my excuse for presenting this plea.

It seems to me that we are over-educating our young doctors in some directions. After a man has reached the age of twenty-five or thirty years and has obtaned an education fitting him for a professorship, it is almost impossible to get him to go to a part of the country in which the population is scattered; as, for instance, in farming districts. Near where I spend my summer vacations, there is a good-sized village surrounded by farms. In or around this town, when any one is ill, they have to send ten miles in one direction or eighteen miles in another, to a larger town, in order to get a physician. They asked me to secure a doctor for them; but, although I have tried for four years to get a young practitioner to settle there, I have had no success. The young men say: "I cannot bury myself in the country. I want to practise in a city, where I can teach or, at least, have a position on the staff of a hospital." A professor told me that he had had, last year, several good openings in the country that he had offered to his students without success.

If the present trend continues, who will attend the rural residents? Are they to be deprived of the services of a physician on account of commercial and other considerations?

V.

ATTEMPTING TOO MUCH IN MEDICAL EDUCATION.[1]

By Frederic Henry Gerrish, M.D., LL.D., Professor of Surgery in Bowdoin College.

One who reads the title of this paper may be tempted to ask if a medical man can know too much of the science and art to which he consecrates his life; if the occasions are not lamentably frequent in which even the most learned physician finds himself impotent to save life or to relieve suffering, when he knows that somebody, better equipped than he in some direction, might turn the scale. It is very true that the best qualified knows too little to satisfy his own standard; that many times he has to deplore bitterly his ignorance and powerlessness; but it does not follow that a school should try to teach its students everything that is known in the whole range of medicine. The time was, and that not very long ago, when a good mind could compass nearly everything that a practitioner was supposed to need. It is very different now; and, although the term of study has been greatly extended, and the facilities for imparting information vastly augmented, nobody thinks that a recent graduate comes as near a mastery of the entire field as the young doctor of forty years ago was thought to attain. Lengthening of the period of pupilage has often been proposed as a remedy; but it is generally believed that the expedient is fraught with manifest injustice to the college-bred student, whose age in present conditions is so far advanced on gaining the doctorate that, with the time of waiting that is the inevitable fate of most beginners, he is well on the road to middle age before he feels well established in his life work. Every year the field enlarges at a rate much in excess of the prolongation of human life, and we cannot help contemplating with sympathetic alarm the demands that are likely to be made upon the student twenty years hence.

In the effort to improve the education of medical students many schemes have been projected—some of undoubted excellence, some of little virtue. The schools of richest endowment naturally take the lead, and those that are most nearly independent of the revenue from the fees of students are best able to ignore the views of outsiders, to set up new and strange standards, and to insist upon compliance with conditions, which at the first glance seem bizarre and eccentric. Boards of registration, also, in various states have exerted a powerful influence in the premises. That some of the methods adopted are of, at least, questionable merit is clear to almost all but their originators, as is evidenced by the failure of other institutions to accept them; and that official power to enforce arbitrary rules is sometimes exercised with unreasonableness and injustice is plain to an unprejudical observer.

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[1] Read at the Special Conversational Meeting of the American Academy of Medicine, Pittsburgh, Jan. 2, 1908.

Before we proceed further it is important to have in mind a clear conception of *the true function of a medical school.* I venture the statement that medical schools are primarily and principally designed to make general practitioners. If, however, one were to judge from occasional utterances in prominent journals, he would conclude that the schools had no reason for existence as far as this purpose is concerned. Quite frequently we see an editorial lament on the passing of the general practitioner. It represents that the work of the profession is so divided that the function of the family physician is reduced to directing his patrons to one or another specialist. But this may generally be taken as a cynical expression of disappointed ambition, a dyspeptic confession of failure. There is no ground for such a declaration. None of us and none of our successors for generations will witness the extinction of the general practitioner. Consider the vast extent of our territory, the unoccupied room in every state, the huge gaps between the centres of population, the great wildernesses almost entirely uninhabited, the prodigious distances that the doctor must travel to reach his patients, and the consequently large number of doctors needed relatively to the number of people. In the cities, and only in them, can specialists thrive; and the people everywhere else must depend upon the all-round medical man. He is not expected to know as much as do a dozen specialists combined—neither common sense nor the law makes any such demand upon him. But he does possess something of the learning of every one of them, and can meet the emergencies of practice in all directions with a commendable degree of skill. Almost all of the practitioners in our country belong in this category, and it is the principal duty of our medical schools to equip its students to enter this class and be worthy members of it. This statement of function is so obvious to my mind that it seems impossible for any one to question it successfully.

The number of things that the man who is to be a general practitioner needs to be taught, and the time assigned to the task is so limited that it is equally a grievous wrong—I almost say an outrageous sin—either to fail to present to him everything possible that his exigencies will require, or to burden him with a single thing that is superfluous. Even under the wisest teachers perfection is not attained—witness the result of a taking-of-stock by a busy physician after he has been ten years graduated. A multitude of the things that his instructors insisted upon as important have been thrown on to the scrap-heap, and this, not because they are entirely worthless, but largely because it is impracticable for an ordinary human mind to retain all of the things that it wishes to keep, or even to utilize all of those that it holds. From the first day of his practice he has been subjecting his acquisitions to a weeding process, partly by design, partly instinctively; and, at the expiration of a decade, he has eliminated a quantity of them, not as valueless, but as of relative unimportance.

The purpose of this essay is to call attention to *the excesses of effort in medical instruction*—to the unwise overloading of the course of study, the attempting to do too much.

Within reasonable limits it is impracticable to comment upon the excesses in all the departments of study; and, as concerns the greater part of them, I might well expect their promoters to retort that I could not be expected to criticize wisely, not having experience in these particular chairs. However, in the thirty-seven years of my teaching I have occupied several positions, and may fairly be considered competent to express opinions on the manner of their management. Furthermore, any adverse comments will fall upon present or past colleagues in various special societies and in faculties, and they will know that my animadversions have no personal sting. You, who hear me, will perceive that my remarks along lines that I happen to know most about are merely samples of what can justly be spoken of all the other departments.

In the first place, I must deprecate the spreading tendency to use the time and strength of the student in the effort to discipline his mind. Up to the date of his entrance to the medical school almost all of his studies have had this purpose in view—he has been trained in a mental gymnasium, in which his intellectual muscles have been drilled to perform all the feats of which they are capable. If his preliminary education has been what it should have been, and what this Academy has always advocated, he has already acquired habits of observation, his mind is aroused to an appreciation of what is meant by the spirit of research, he is capable of comprehending the instruction in every department. Doubtless he will derive mental benefit all through his professional course, aside from the acquisition of knowledge; but that advantage should be regarded as incidental, and not as the primary and chief object of his study. But this view seems not to prevail in all institutions. It may be that, as soon as he is admitted to the school of his choice, he is placed at a table in the anatomical laboratory, and told to dissect an assigned part of a human body. He has had experience in dissecting some lower animals, probably a mollusc, a crustacean, a batrachian, and this work was conducted with a special purpose of cultivating his powers of observation—he was expected to find out and record the visible objects in the structure of these several creatures. This is a highly desirable experience in his preparatory career, but out of place in the professional school, where the necessary habit of mind and the required capacity ought to be taken for granted, and where, too, there is such a multitude of things clamoring to be learned in an inadequate time. He comes to the medical school to acquire knowledge that he must have for his professional work, and he should have all the assistance of every kind that will expedite his progress. Instead of getting it, however, he is left to do what he can by his own efforts. He is not forbidden to consult books, but he has no lectures, quizzes, or recitations on human anatomy. He is not as badly situated as the first man who attempted a dissection, but he is not having fair play—he does not get what the institution should give him for his fee. It is wholesome that a cadet at West Point should have excercises designed to bring his physical condition to a high degree of development; but, when the same man is preparing for an imminent battle, it would be folly for him to spend a moment of his precious time in gymnastics.

It is possible that this method, to which I am objecting, is adopted sometimes by a professor not as much to increase the powers of observation of the students, as to save himself the trouble that some other system would exact. A visitor to one of our noted schools was inspecting the workings of the anatomical department. Finding that there were not only no lectures, but also no recitations or quizzes in gross anatomy, he asked the professor, "How do you know that these men are getting their anatomy?" This was the reply: "How do I know? What do I care? That's their business." This notion of the proper relation of teacher and pupil excites my surprise. Probably I am hopelessly old-fashioned, for this attitude impresses me as being the type of brutal indifference and reprehensible delinquency.

The inclusion of comparative anatomy in the curriculum has no justification—it imposes an unnecessary burden upon the student. An occasional allusion to some feature in the structure of a lower animal enlivens and illuminates the description of the homologous part in man; but comparative anatomy is a study which logically belongs in the preparatory course, and there it should be kept, as far as the interests of medicine are concerned. In one of our great schools the professor of anatomy had lectured four hours on the shoulder-girdle, and then said: "Now, gentlemen, we are prepared to appreciate the shoulder-girdle of the tortoise." I have no doubt that these discourses were profoundly learned, and admirable in their place; and, also, I have no doubt that the place for them was not in a medical school.

Even in institutions where the student is not expected to work out his salvation without assistance, and is not called upon to familiarize himself with the structure of man's poor relations, he may be required to cram into his mind a great deal of anatomical material that is almost entirely useless. The most of the text-books are monstrously overgrown—the effort of their makers seems to be to include in their works every ascertained fact that bears upon the subject. Only a part of these facts are important medically, and, therefore, the teacher should cull, and present only what his experience shows to be valuable; but sometimes (often, I fear) this is not done. In one case that came to my knowledge the professor, choosing the textbook that he most esteemed, learned it by heart, and repeated it verbatim to his class. This grotesque conception of the function of the teacher strikingly illustrates the fact that the student is not aided, as he ought to be, in selecting the things that will be serviceable to him. It shows, too, that a habit of memorizing will enable one to lay up vast quantities of lore; but that it will give him a competent, usable acquaintance with his subject may well be doubted.

In the department of surgery similar faults are conspicuous. Instead of selecting the parts of his branch, a knowledge of which is most essential to a young practitioner, many a teacher lays especial stress upon certain things that happen to interest him, as an experienced and daring surgeon. Probably they are along lines that a great majority of the class will never venture to travel, which, in reality, they never ought to enter upon; and the time devoted to these topics is almost entirely wasted. I have known a professor of surgery to spend more than an hour in an attempt (unsuccessful, be it said) at the demonstration of a method that could only have an occasional application in an accident that occurs very infrequently in civil practice. The same man slurred over the subject of hernia in so cursory a manner that not a pupil brought away a serviceable point about it. Doubtless some of us have met recent graduates who could write a brilliant examination paper on some topic as difficult as the extirpation of the larynx, but who were unable to do a neat phlebotomy, or apply a spica bandage to the shoulder. The performance that hardly one practitioner in a thousand is ever warranted in undertaking he knows theoretically all about, but the simple little manipulative procedures that he ought to do rather frequently he blunders over pitifully. Illustrations could be multiplied to the same effect, but enough have been cited to enforce my point that there is a marked tendency to spend much time on matters which the practitioner has little occasion to know about, and to ignore or slight other things which he needs constantly or often.

In the department of materia medica (I do not mean therapeutics) there is frequently—I fear usually—presented to the student an array of facts about the origin, cultivation, gathering, natural history, etc. of crude drugs, their preparations, doses, and the like, which, in the main, is a worse than useless burdening of his mind. Nobody is likely to contradict me when I say that, after the passage of the examination in this branch, the student promptly forgets the most of what he has learned on the subject, and never has serious occasion to regret the loss.

Competent knowledge of his subject is, of course, the prime requisite for a teacher, but by no means the only qualification. He needs, also, a keen sense of proportion; he should be able to recall the days when he was beginning study, and the difficulties which then beset his path; and he should have a lively sympathy for the average student in his inevitable trials. That all men, who occupy teaching positions, do not possess all of these attributes has been shown in part by what has already been said, and is further demonstrated by the habitual declaration of a very distinguished professor that he has always made a practice of addressing the upper half of his class—as if the lower half, although they had shown themselves qualified to enter his school, and thus presumably were entitled to such help as they needed in acquiring the learning that they had paid to get, were unworthy of the teacher's attention. There are those who entertain the idea that the portion of the student-body that has most need of assistance ought to receive most.

How to arrange a course of study that shall be perfectly balanced, that shall display a due sense of proportion, is a problem of great moment and serious difficulty. The relative importance of the different departments varies with the advance of our science and art, and an arrangement that is judicious and entirely satisfactory to-day will probably—indeed certainly—be out of equilibrium a few years hence. Consequently the curriculum must be the constant object of intelligent study, and every faculty should be ready for a re-adjustment of the course whenever need for change is fully apparent.

It is important to have the specialties taught by experts; but, as is natural, each of these is apt to entertain an exaggerated idea of the importance of his own little department, and clamors for more time in the curriculum in which to exploit the merits of his particular branch. The man of dominant personality and untiring persistence is apt to carry his point in anything; and, in such cases as we have to deal with, the result is a lopsided course of study. I recall one medical school, on which the satirical comment was made with some show of truth that it was a chemical laboratory in which some medical branches were taught. The head of the chemical department was a strong man and a big bully, and he always had his way. One of my colleagues (Dr. Willis Bryant Moulton, professor of ophthalmology and otology) has made a suggestion, which is so pertinent and sagacious that it deserves wide consideration. It is this: that no teacher should be allowed to participate in the assignment of time to his own department. His associates on the faculty should consider the demands of his branch in connection with those of all the others, balancing and adjusting all claims, with the purpose of achieving a well-proportioned and reasonable curriculum.

The points which I have been trying to make are that the curriculum of a medical school should be arranged with principal reference to the needs of the general practitioner; that there should be excluded from it all branches designed for mental discipline, and those that do not have a direct bearing upon the practice of medicine; and that the branches which are taught should be presented not in their entirety, but only in such part as has the most practical reference to the needs of the medical man. I am not unmindful of the rightful claims of the specialties; but, beyond those parts of them that are essential to the all-round doctor, they should be made strictly post-graduate studies.

What, then, are the dangers of attempting too much? Chiefly, in my opinion, they are three. *First*, the danger of setting up false standards. However valuable may be the results of purely scientific branches and methods in medical study, they are of small account and futile, if they fail in equipping the student for encountering successfully the problems of his professional life. *Second*, the danger of raising true standards to an unreasonable height. Life is not sufficiently long and the human intellect not sufficiently capacious to justify the attempt to teach a student all that is known about all of the branches of which he must know something. *Third*, the danger that is always at hand when cramming is mistaken for education. Only that food is valuable in nutrition which is digested, absorbed, and assimilated. Stuffing beyond the capacity of the system to appropriate is a waste both of material and of vital force.

DISCUSSION.

Dr. Clara Marshall, Dean of Woman's Medical College of Pennsylvania:

Fresh from the school-room in which the teaching was oftener than not in the hands of pedagogic experts, I was impressed on entering the medical school with:

1st. That more material was presented to the students than those students could possibly assimilate.

2nd. The absence of laboratory methods.

3rd. The absence, as far as the student could observe, of any effort at co-ordination; indeed we were diverted and at the same time much perplexed by hearing diametrically opposite opinions on the same subjects from different chairs.

4th. The absence of any apparent training on the part of the Faculty as a whole, in the art of teaching.

Those faults are gradually being remedied by medical schools by

(*a*) Raising of entrance requirements—the better trained student being better able to assimilate.

(*b*) By lengthening the course, thus giving him *time* in which to assimilate.

(*c*) The introduction of systematic laboratory and clinical work in connection with the didactic teaching in all departments.

In the school which I have the honor to represent, there is an earnest and systematic effort being made in the direction of co-ordination.

(*d*) As to the absence of training in the art of teaching there is still room for improvement in all medical schools.

The medical curriculum is largely the result of environment; or of some fortuitous circumstance (fortuitous may seem unscientific but I shall explain presently); medical schools in this country are usually developed in the direction of the least resistance; that is to say, if a curriculum should be most carefully planned at this meeting, "4000 hours" and all, and if all present should honestly intend to put into operation that curriculum, there would still remain almost as much difference in medical schools as there is now.

Take for instance a great city like Philadelphia, the *clinical* side of medicine was developed *first* because it was easier to secure patients than to build laboratories. Just the opposite of this may obtain elsewhere. Illustrative of this very point, I was recently in conversation with the President of a university in a very sparsely settled western state. I said "You have no *medical* school, of course, in your state?" "No, but we are going to have one." "How will you secure patients for clinical teaching?" "Oh! we shall have only two years, only the pre-clinical course." Here is an organization able to endow laboratories, but unable to provide more than *half* a *curriculum!*

Again an endowment may work a miracle (here is the fortuitous circumstance). A wealthy Quaker dies, and presto, Baltimore can command a gala of medical stars and Johns Hopkins becomes an inspiration for us all and the Mecca of the South.

So with the school which I have the honor to represent: the *demand* on the part of women students in a *woman's* medical college for thorough training in obstetrics and gynecology is such that these two departments *must* be looked after most carefully; so that we are in the habit of claiming that, as compared with the majority of schools, we are equally well equipped and in two departments better equipped.

An ideal curriculum will never be reached in the medical school as now organized. At present, the medical faculty is made up of ten or more separate and independent atoms, occasionally united into a single molecule for a common purpose. The dean may be the presiding *officer* of the faculty, but seldom is the presiding genius.

We all know, that it is more often some master spirit, not the dean, who really regulates the policy of the college. I have even known faculties actively to resent any attitude on the part of the dean except that of expounder of the will of the faculty.

With ten or more professors, each working toward the goal of personal ambition, under the influence, in varying proportions, of that commodity called conscience, how can co-ordination in the best sense exist?

It has seemed to me that if instead of an election by the faculty, the *trustees* could call to the office of the dean a great organizer such as we see at the head of some of our literary institutions, an Eliot, or a Harper, or a David Starr Jordan, and give him the *power*, order might be brought out of this chaos! In spite of the mistakes such a man might make we might hope to have a system run upon true pedagogic principles. Until some such plan as this is adopted, the best results will fail of accomplishment.

At the risk of being trite, I shall have to say that this means *endowment*: for endowment permits of achievement; achievement brings prestige; and prestige is a potent factor in securing that which is finer than the school, greater than the university—the man!

In the meantime, the state boards of medical examiners, which with all their faults—their *colossal* faults—have been such a power for the uplifting of the medical schools, the state boards will have to match the schools by the even *more* needed introduction of some of the principles of pedagogy.

Apropos of state boards I should like to quote in the spirit of the Good Samaritan, the following suggestions, from a well-known professor of chemistry,[1] suggestions which embody principles which might be adopted in connection with examinations on any medical subject.

[1] Henry Leffmann, M.D.

"State examiners pay too much attention to elementary principles, *i. e.*, the atomic theory, valency, classification. These parts of the instruction are only 'passing words' and students should not be expected to retain them until graduation. *Medical* students study chemistry because the problems of physiology and pathology and the principles of therapeutics are largely elucidated by chemical principles, but the details of elementary chemistry, when once learned, may be allowed to rest, the student passing on to the higher, *i. e.*, the *applied* science." To make the application general, state boards should examine upon what a practising physician ought to know and not upon what a senior student ought to forget.

I am in entire sympathy with a physician who, forming a part of the exodus to Vienna, each unit representing a probable returning specialist, was asked "What is your aim?" He replied, "I am going abroad in the hope of returning a much better general practitioner." However, it takes a specialist to teach the student when to send for a specialist.

I once was a member of a little group when the conversation fell upon the subject of truthfulness; it was agreed that a certain Miss H. was an embodiment of this virtue. Some time afterward, one of our number meeting Miss H. asked "Did your father and mother *talk* to you on the subject of telling the truth?" Her reply was "No, I never heard one word from my parents on the subject; they simply always told the truth themselves."

I have been informed that once upon a time, a certain professor, in his introductory lecture, delivered a most eloquent address on "character," leaving his audience in a state of spiritual exaltation, but——during the following week in the opening lecture of his own course, he related anecdotes which forever annulled his influence with that class.

If the professor of surgery, during an operation, throws things, or swears at the nurses; if he grades his manners in accordance with the social status of his patients; if the woman professor is weak and superficial and mannish, instead of forceful and thorough and womanly, *talks* on character are without avail; indeed it should be the duty of trustees to secure for the faculty men who are gentlemen in the highest sense of the word and women who possess those qualities so elusive in the description and yet so necessary to the make-up of a *lady*. Then and not till then will there be a moral uplifting of the whole medical profession, for the medical student, although he may be twenty-one, has by no means passed the impressionable age and unconsciously forms himself upon the type of a brilliant, albeit too faulty, teacher.

When all teachers shall be models, in every respect, for those they teach;

When the schools cease to be afraid of state boards, but continue to advise and reason with them and educate them, and stop cramming their students for them;

When each candidate for membership on a state board of examiners obliged, *by law*, to present evidence of having taken a course in pedagogics;

When medical students cease to decide upon a specialty before entering upon the study of medicine;

When universities cease to wrestle with the problem of how to put an educational *quart* into an educational *pint* measure and call the correct answer to the problem the two degrees A.B. and M.D., while at the same time, the independent medical schools and the independent literary colleges are giving separately full measures;

When it shall be recognized that the medical school is *primarily* a technical school, while the literary course includes largely the idea of discipline and culture and that the attempt to telescope the two defrauds one course or the other and to that extent cheapens each degree;

When reciprocity between examining boards shall be the rule; when a student will no longer hesitate to study in any state he pleases lest he may be allowed to practise only in the state which does *not* please him;

When only the colleges exist which have sufficient endowment;

Then may the American Academy of Medicine be able to say "A part of this, I was."

Dr. Senega Egbert, Dean of the Medico-Chirurgical College, Philadelphia:

I want to preface my remarks by the statement that I am heartily in sympathy with the purpose of this Academy. I happen to be a college man myself and I am prouder of it every year; but, while the aim of this Academy is most desirable and while the purpose of this meeting is most desirable, I think we ought to raise the question in our minds: "Is what some of us want, actually essential and necessary at the present time in medical education?" I have studied this matter a great deal. Certain members of the state examining board have seen fit to talk much about "commercial medical schools." While it was never said that our school was one of that class, we do not belong to the university class, and there was a feeling by some that our school among others was meant. This last year as the result of a careful investigation I found that there are only six of the so-called independent medical schools in this country that can be truthfully termed of the first class. The deans of four of these schools are with us this afternoon. I take particular pride in saying that three of these schools are in Philadelphia, as I am conceited enough to put our school in that class.

This matter of proper medical education has been a therefore vital one to us in Pennsylvania and in Philadelphia. I have in my office to-day calls for men to go out and practise medicine and I cannot find a man to send. Every one of our graduates this year who desired it secured a hospital position, and we had more hospital positions than graduates to fill them. Other men were put into positions where they could immediately make a living, so that our recent graduates are all now employed, and there is still a need in some parts of the state for physicians. The question arises, What kind of physicians must we send? Simply men who will be willing to take up the life of a country doctor. Can you get the man who has put a big lot of money into a college education to go, even for a little while, to such a position? My experience is that we cannot. Yet, I advise every man to get all the general education he can and to get it before he enters the study of medicine.

While our medical schools may not be necessarily cultural, they are developmental in the highest sense. The tests of the state boards are not what they should be, but they are the best we can get at the present time. Very much less than 50 per cent. of the questions on surgery are on general surgery, therefore the specialties must be taught by us. The schools have not only to teach their men to be able to practise, but to be able to pass state boards, and they have to teach a great deal more or in different ways than they would if state boards did not require certain things. Dr. Holland will bear witness to a recent examination in which the state board questions on chemistry were unfair and could not be satisfactorily answered.

I don't believe that a school should be run for commercial purposes and I do not believe that any good school is run in that way. I do believe that we need a greater unification of curriculum. This question, however, is largely one of circumstances and surrounding. If you select a man for professor who has a reputation in a certain department, you have to adapt your teaching somewhat to his ideas. There is probably not a school in this country that would not call Dr. Osler as a teacher if it were possible to get him, yet the school that secured him would be obliged to adapt itself more or less to Dr. Osler's methods of teaching.

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Practically speaking, there has been but little investigation of the curricula of the colleges. This is the end of my tenth year as dean. I know of no visit, save two, in that time for the purpose of acquiring information, by any official who had a right to ask for such information. Those visits were from the Secretary of the Association of American Medical Colleges, and from a representative of the New York State Board of Regents.

The question arises—are we to graduate men who come to us, offer us our fees and fulfil the necessary requirements? Are we to graduate them simply as cultured gentlemen? What does the public expect us to do? What have we our charter for but to make them practising and practical physicians that they may go out and make a livelihood? Have we as officers in a medical school any right to be lacking in that respect? Nevertheless, I want to see a man as highly educated in the sense of pure or general culture as it is possible for him to be. If the graduates of our medical schools have not the full idea of medical ethics, it is largely the fault of the schools from which they come. It must be remembered, however, that they all have to and do acquire a lot of knowledge and culture and physician's sense after they get out of the medical school, and we should also remember that underlying the education of physicians are certain principles which apparently no one has yet been able to grasp. The matter is extremely complex and there will be required many meetings of this Academy and of other similar organizations to definitely answer all these questions that we are considering to-day.

(Dr. Egbert here read a quotation from the report of the state board of medical examiners, showing that the medical schools of this state were turning out graduates who did meet the requirements of the said board.)

The result shows that the school is doing good work, or else that the state board examination is not worth much as a real test. When the state board changes its system of examining, the medical schools can make a change in their teaching. I think an inquiry into the curricula of our Philadelphia medical schools will show that adverse criticism of them cannot with justice be made.

Dr. William Estes, President of the Medical Society of the State of Pennsylvania, South Bethlehem, Pa.

It seems to me, that we are losing sight somewhat of the cardinal idea of this meeting. If we are to determine anything at all, it is to determine how much education a man needs for the proper practice of medicine—preliminary and technical education. As every speaker has said, we all must agree that the fundamental point is, how much *preliminary* education a man must have. If we can settle that, we shall have gained the point which the Academy is most anxious to settle. We are not here to attack any college. We are here simply to get at the general broad proposition: whether we shall follow the lead of medical colleges abroad in lengthening and widening the field and process of our medical education; or, shall we be content to go in a haphazard manner as heretofore? England requires five years for a medical course, and the preliminary education to be acquired at some of the large preparatory schools, such as Eton or Harrow; Germany also requires five years, or five and a half years, with the gymnasia for preliminary training. They are equal to about the Sophomore class in our ordinary colleges. The requirements which have been recently adopted at the conference upon medical education of the American Medical Association were the suggestion of a minimum preliminary education which should be equal to that of the Freshman class of a good university and one year in addition—one year of physics, chemistry and biology and one modern language, preferably German. Shall we take that as our standard, or shall we not? So far as the general proposition is concerned, I believe, with Oliver Wendell Holmes, that a boy's education should begin three hundred years before he is born. For the study of medicine it ought to begin from the very time he is able to understand anything. In other words, the parent ought to select for his child, in a general way, the profession which he is to follow and bring him up with that in view, in the very primary school preparing him for the education which he is going to give him in the medical school.

For the last twenty-five years I have had occasion to examine students of all Eastern colleges, and in every college in this State there is a woeful deficiency in the knowledge of anatomy. I agree with the essayist who said that this fundamental branch should be continued through the whole curriculum of the college, especially that anatomy and physiology should be continued in some *proper* way so that the students shall not become rusty. Sir Richard Douglas Powell has suggested that with the five years' medical course in England, two years might be called non-medical, and are spent in a non-medical school, and that the last three years should be called medical and be passed in the medical department of a university or an independent medical school. It seems to me that the objection to that would be, as Sir Richard D. Powell said, it might deprive him of the advantage a man has in a medical atmosphere throughout his whole course. There are many suggestions which he needs in the very beginning, and those impressions are more lasting when received in the early periods. I should think, therefore, that this innovation in our country of a non-medical training for the student in physics, anatomy, chemistry and biology might be to the detriment of the general all-round medical trend which his education should assume. He might with advantage study chemistry and physics at a non-medical school, but not biology and anatomy.

I want to say that anything which will lessen the general culture of a man, which would take away from him any power of thought, or of decision, or of ability to bring anything into a consideration which is in the way of culture, just that much weakens the man and weakens the profession to which he belongs. It seems to me that the idea of this Academy should be to strenuously oppose any measure which would weaken the already not very strong culture of our medical profession, and for that reason I hope that no question of independent schools will be allowed to come into consideration in this broad, general, impartial discussion of what is necessary to fit a physician for his life work.

Dr. James W. Holland, Dean Jefferson Medical College, Philadelphia:

The question after all with which we are most concerned is, What is desirable to fit a man for his life work? We divide doctors into two classes regarding their work. One class is represented by the investigator, the teacher, the expert; the other by the all-round, every day, or as we sometimes hear the "sure-enough" doctor, the man who has to do the things that must be done, somehow. He may not do them as well as the most highly trained experts in their special fields would do them, but he has to do them as well as an all-round doctor can.

He is the man called for an emergency and the family doctor. We may feel that we should like to have our sons possess the highest possible education, and we are content to make sacrifices to send them to the best universities and hospitals and send them abroad to study in some special laboratory. Such training makes a very fine type of medical man. It is well known that this training does not always make the most efficient practitioner. For this there are several reasons, but at present I will quote you a curious one which may be true. The late Dr. Pepper, Provost of the University of Pennsylvania, used to say that a man ought to be engaged at the business of his life before he is twenty-five years of age. The statement recurred to me when reading an article by Professor Minot, professor of anatomy at Harvard, in which he gives biological reasons for this fact. He says that the proper course of education is to get a boy into school, into college, into professional or business life as early as possible. He reasons from the fact that the power of learning quickly is greatest at an early age. An infant learns something every minute of its waking hours and the older a child gets the more difficult becomes the achievement of his study. He contends that the great majority of men lose the power of learning at twenty-five and these conclusions are based upon biologic data. Says he: "It would be better to have the young man get to college earlier, graduate earlier, get into practical life or the professional schools earlier while the power of learning is greater." The moral is that some part of this impressionable and plastic period should be given to acquiring the art which is to be the basis of his life work. To carry out highly elaborate schemes for preparing a man to begin medical study would often be to consume the most precious period in studies of secondary importance.

President J. G. Schurman, Cornell University:

The papers presented have covered a wide field which shows one how this subject of medical education bristles with unsolved problems. I have had experience with all kinds of education—I mean all kinds of liberal and professional education, and it has been my own persuasion that the problem of medical education has made less headway than that of any other educational problem with which our universities deal.

You have talked here to-day about the preliminary education and the professional education. In this association you take it for granted that every medical man should have a college degree. I represent a university which has put itself on that foundation. Beginning with this year, 1908, we shall admit to our medical college only college graduates or persons of equivalent training; and, in order that there may be no doubt on this latter point, the determination is not left in the hands of the medical faculty, but the examinations are conducted by a committee of the President, the Dean of the College of Arts and Sciences and the Dean of the Medical College. They do not conduct the examinations but they have charge of them.

The licensing of physicians is in the hands of our state authorities. There is not a state in the English-speaking world which requires a college degree as a condition of medical practice. So long as there are authorities which control medical practice, there must be medical colleges in the country which do the work which those in authority demand. Suppose that all medical schools in the country should insist that they would shut their doors to al except college graduates, what would happen? In every state the legislature would be asked to charter separate medical schools to train graduates of high schools who were too poor to get a college education or too old. I believe, therefore, that the question of a college degree for admission to the study of any of the professions is not one that can be settled by a universal rule. It is one which depends upon circumstances. Before we took action in our medical college I had been studying the matter for nine years. I had refused for all these years to take any step in advance, though we were discussing this possibility. Finally, I said that I thought the time had come for us to insist that our students shall be college graduates; because, in the first place, there is no other medical college in New York City which is not open to high school graduates. While I recognize that other institutions must continue to do what they are doing, I don't feel that we should all do that. I am anxious that our medical college shall confine itself to educating the men best fitted to take a medical education and that we shall also devote ourselves to research. Here, also, circumstances come in. We are independent of our fees and are spending, indeed, five times as much as we receive from this source. If we had not the money we have we could not have afforded to take the step we have now taken.

While in full sympathy with the constitution of this Association and the deals for which it stands I do not for a moment assume, as I suppose you don't assume, that those ideals can or ought to be enforced universally.

In the second place, when you come to the question of what the constituents of the preliminary education shall be, I have noticed a considerable disparity of opinion. I know medical men who insist that the best college preparation for the study of medicine is the old-fashioned classical course of Latin, Greek, mathematics, philosophy and the rest; but, I know others, and they comprise the larger number, who insist that in the college course the medical student should take some of the sciences, perhaps a large proportion of the sciences which constitute the foundation of his medical work. We college men have not yet settled that question ourselves, but I can say that so far as Cornell University is concerned, we have frankly put ourselves on the platform described in the paper read to-day from a Cornell graduate, Dr. David Starr Jordan, of Stanford. President Jordan recognizes, as I have on other occasions myself described, that the tendency in American education is more and more to make a large break at the end of the second year. The matriculation examination is to-day, he says, two years higher than it was twenty-five years ago. At the beginning of the century Carlyle, a boy of thirteen, went up to Edinburgh University without a knowledge of Greek. To-day no boy has a chance to enter a university who has not spent four years in a high school course.

I believe the elective principle in college education has been carried too far. It was inevitable that the elective principle should come in. If the colleges are the organs of existing knowledge it became impossible with the growth of modern science for professors to prescribe everything. Therefore, selection had to come in, that is all the elective system means. President Eliot has not only advocated the principle of election but has tried to base it upon philosophical grounds. I do not agree with him. A boy should have definite guidance in his studies for the first two years of the course. But at the end of that time he is in a different situation. During these four years of high school and two of college he has completed a course corresponding to the six-year course in a German gymnasium. The boy is then ready for special study or for his professional career.

As has been said, we could graduate men in law in three years after they have completed the Sophomore year of college, and we could graduate men in medicine in four years after; but, as President Jordan suggested, it might be well to insist upon five years. In the first two years of the college course the boy should take language, history and mathematics. In the years which follow this, if he is looking forward to medicine, he should study predominantly the sciences. He presumably has had chemistry in his first two years. In the years which follow he should get on with the other sciences, so that when his college course is completed and he enters the medical school he has had a year or two of good solid work on the sciences, the continuation of which will then be before him. This is my idea of the kind of college education a prospective physician should have.

When, however, I come to consider the study of medicine, I speak with less assurance. I am in the habit of meeting with physicians. May I say they have certain peculiarities. Guardians of the public health—they endure (I think) worse ventilation than any other faculty. Conservators of good habits—they form the only faculty I attend in which there is smoking; and, although you would suppose they knew all about digestion and assimilation, when it comes to education their idea is simply, it seems to me, to pile it on. So that now and for years past the medical curriculum has expanded with the demands of the representatives of the medical profession. In the Cornell Medical School some one gets up pretty nearly every term and proposes some additional subject. I know by experience how to meet the problem. I allow the gentleman always to make his speech, and then I ask him what subjects he proposes to drop in order to make room for the new one in the curriculum. The course is already overcrowded. In our university the students in the medical school have a harder curriculum and must work a larger number of hours than the boys in any other course. I was delighted to hear the suggestion that relief could be found by putting the specialties in the post-graduate courses. My own feeling is that if physics, chemistry and biology were eliminated from the medical course, as we eliminate them at Cornell, and that if the specialties were made post-graduate courses, there would be room enough between the two extremes for a good medical course of four years in the fundamental subjects.

The last speaker said he would look with suspicion upon the teaching of physics, chemistry and biology by faculties other than medical faculties, because a man with a medical training understands from the beginning the application of physical, chemic and biologic principles and facts. Now as a general proposition, I realize that medical subjects and pure sciences like physiology and anatomy should be taught by medical men, and we require this; but, when you come to sciences like chemistry, physics and biology, which are not so closely intertwined with the medical sciences as physiology and anatomy, this reasoning does not hold.

There is another consideration to which I would invite the attention of my friend who has advocated this rule: Medicine is applied science. It is an art which rests upon science. It is true in every case that before you have applied science, you must have a science to apply, and the danger of putting subjects like physics, chemistry and biology in a medical curriculum is that the beginner, instead of mastering the foundation principles and the facts which he ought to know like a, b, c, is rather always thinking of the application. From the point of view of science, that is bad. When we founded our medical school at Cornell we desired to have the first two years of work in Ithaca that even our medical department might not be wholly separated from the rest of the university, but we recognized that for other reasons it was necessary to have the first two years also in New York. So far as I know, ours was the first school in the country which separated the first two years of work from the last two. Sometime after that I was congratulated by an eminent physician upon the separation of the first and the last two years of the course. He said it an was enormous advantage because of the fact that during the first two years while medical students are studying pure sciences they are apt if in the neighborhood of clinics and dispensaries to devote their time to these, rather than to the sciences before them, which, however, are essential as foundations.

Dr. Edward B. Heckel, Pittsburgh:

I would like to ask Drs. Holland, Marshall and Egbert how many faculty meetings they have during a college year?

Dr. Holland (answering Dr. Heckel):

We have the general faculty which includes a large body of all the professors and which meets three times a year. We have the administration committee of smaller size which does the business of the college and which corresponds to the old faculty of ten members. This meets once a month.

Dr. Clara Marshall (answering Dr. Heckel):

We have a meeting once a month of the teaching force and special committee meetings very frequently.

Dr. Egbert (answering Dr. Heckel):

We have a regular faculty meeting once a month. Of late we have given to committees almost every question in regard to administration and curriculum. We find that committees can work out points and accomplish more good than can the faculty *in toto*.

Dr. Heckel:

I believe there is apt to be a lack of unanimity in the medical faculties and a lack of concerted action among the heads of departments. I am surprised that so many faculty meetings are held in Philadelphia. I doubt whether they are attended as well as they might be. Were there a large number of faculty meetings held during the year at which the curriculum and the standing of the students in the various departments were considered, so that the value of each department to the individual student could be seen, it would be much better for his welfare.

I must take exception to Dr. Marshall's statement that a student should not start out with the idea of becoming a specialist. I think the history of the profession will show that the successful men are those who started out with an ideal. Every one should have an ideal, and the earlier it is set up the better for the boy or girl. A training in psychology, which is a neglected subject in our medical schools, should begin early in life. The earlier one starts out with the idea of which one would like to be, the more rapidly will it be attained.

Dr. Motter closes:

I have nothing to add, save that it appears to me that most of us have had very much the same ideas as to the present status of this whole question, and that, it seems to me, is one of the most promising results that we get from a meeting of this kind. If we are in accord with such well-known educators as we have heard from to-day, our coming together will have been well worth while.

Dr. Gerrish closes:

I merely want to emphasize one or two things which I tried to make plain in my paper: The idea of excluding each particular professor from the assignment of time to himself, I believe to be entirely practicable, and I do not see where any difficulty should enter. The main point, however, is that the purpose of the medical school should be primarily and principally the making of general practitioners. I do not think that that idea has been sufficiently accentuated in the discussion. It is the thing we should keep mainly in mind.

One other point is in regard to the disciplinary value of medical studies. I recognize that the studies of a medical curriculum must have such an influence upon the student's mind. The benefit, however, is incidental and not the principal thing. No man can study anything without receiving some discipline of the mind, but the real disciplinary work should come before the man enters the medical or any professional school.

THE IMPORTANCE OF ACTIVE COÖPERATION BETWEEN PARENTS AND TEACHERS IN ORDER TO PROMOTE AND MAINTAIN THE HEALTH OF CHILDREN'S EYES DURING SCHOOL LIFE.[1]

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In order to appreciate the importance of active coöperation between parents and teachers for the promotion and maintenance of the health of children's eyes during school life it seems best to discuss the subject in the following phases: First, the eye and some of its affections from which children suffer; second, the symptoms produced by these affections; third, the methods of detection and the remedies for their removal; fourth, some remarks concerning the care and preservation of the eye.

Let us first direct our attention for a few moments to the consideration of the formation of an eye. Many of you will recall from your physiologies that an eye is a more or less globe-shaped organ composed of three coats. The cornea, or the clear portion of the eye directly in front, and the sclera or the white of the eye, together constitute the outer coat. The iris, which furnishes the color of the eye when we say that an eye is blue, brown, or gray, in the center of which is located a round hole known as the pupil, the ciliary body and the choroid constitute the middle coat. It is this latter membrane, the choroid, which is black, that prevents all light from entering the eye except through the pupil and in which are found large quantities of blood vessels from which the various structures of the eye receive most of their nourishment. The third, or inner coat, is composed of the retina or seeing portion of the eye, from the back part of which the optic nerve passes to the brain to transmit the various impressions of sight as they are received.

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[1] An address delivered before the Conference of the Eastern Public Education Associations at Philadelphia.

Immediately behind the pupil is situated the crystalline lens, a clear, beautifully formed transparent body which is surrounded by a tiny muscle that has the power, whenever we so wish, of altering the thickness of the lens, thereby changing its focus. It is because of this muscle and lens that we are enabled to see both distant and near objects with equal facility, as for example, a ship sailing on the distant ocean, or the print of a book in our hand; and it is because the lens becomes somewhat hardened in the neighborhood of the fortieth year of age that we are unable to alter its thickness and thereby change its focus as readily as in the earlier years of life and are obliged to adopt glasses for our near work, such as reading, writing, sewing, etc., though the distant vision may still be most excellent. It is also because of the excessive strain placed upon this muscle in trying to alter the focus of the lens in order that clear vision may be constantly maintained regardless of certain optical defects of the eye, as will be pointed out more fully in another part of this address, that we have headaches and various other nervous phenomena that may result ultimately in greatly impaired health.

Those of you who are in the habit of doing photographic work will readily understand the comparison of an eye to a photographic camera. The cornea and the lens of an eye with its surrounding muscle represent the lens of a camera with which the image of a given object is reproduced and focused. The pupil of an eye represents the stops of a camera, which, as you know, must be large or small to produce a distinct image according to the amount of light at hand. Thus the pupil is smaller in very bright light and larger in dim light. The interior of an eye, because of the dark choroid, may be likened to the interior of a camera, light entering, as has been stated, through the pupil. The retina of an eye corresponds to the ground glass plate of a camera upon which all images are focused. If an image is not distinctly focused upon the ground glass plate the photograph will be blurred and there will be no detail; and likewise, if an image be indistinctly focused upon the retina it will also be blurred and lacking in detail.

With these few elementary facts concerning the structure and physiology of the eye let us now turn our attention for a few moments to some of the more frequent abnormal conditions of the organ with which children are apt to be affected. Certainly the most frequent of all of these conditions are the various errors of refraction, or, in other words, conditions of the eye in which distinct images are not clearly focused upon the retina, usually because of some deject in the focusing apparatus. These refractive conditions are far-sightedness, near-sightedness and astigmatism.

Far-sightedness, either alone or associated with astigmatism, is by far the most frequent defect of the optical apparatus of the eye with which we have to contend. In this condition the eyeball is shorter than in a normal eye, and when an attempt is made to focus an image upon the retina the image is indistinct. To overcome this indistinctness the little muscle surrounding the crystalline lens must strain itself severely in order to make the lens sufficiently strong to produce a clear image, and this strain kept up constantly, day by day, produces a remarkable series of symptoms that may finally result in making of the patient a chronic nervous invalid.

Near-sightedness is less frequently met with than far-sightedness and as regards the preservation of eyesight is a much more serious affection. In this condition the eyeball is too long as compared with a normal eye and in attempting to focus images of objects upon the retina they are focused before the rays of light reach the retina, and the images are blurred except for objects that are very near the eye. If the near-sightedness progresses there is the greatest danger of serious damage to the internal coats of the eye, because of their stretching. As has already been stated a near-sighted eye is longer than a normal eye, and as the condition increases the eyeball becomes still longer. The outer coat being much more able to stand this stretching than the inner coats, we find the latter becoming more and more diseased and in extreme cases we sometimes meet even with detachment of one of these membranes from its usual position and subsequent blindness. I refer to these conditions and possibilities more particularly to emphasize the extreme importance of being on the lookout for symptoms indicative of them, because upon their prompt recognition and proper treatment will oftentimes depend the future eyesight of the child; and with poor eyesight how greatly one is handicapped in the race of life !

The other optical defect with which we have to contend, astigmatism, is a condition in which some particular curve, or meridian, of the eye is far-sighted or near-sighted, while all the other curves, or meridians, are normal. It is sometimes observed alone, but much more frequently in conjunction with one of the other defects, and the symptoms produced are also those met with in far-sightedness and near-sightedness. The images are not distinctly focused upon the portion of the retina corresponding to the defective meridian and consequently blurred outlines are obtained, patients affected with astigmatism never having distinct vision without proper correcting glasses.

Now what are the various symptoms produced by these optical defects, symptoms indicative of eye strain, because in all of the defects the eyes must be strained in order to produce distinct vision, though to a much greater degree in some than in others? What shall the teacher be on the lookout for in the school-room and the parents watch for in the home? This depends largely, I think, upon whether examinations of the distant and near vision of all the pupils are systematically made each year at the beginning of the school term. If this be done, those having defective eyesight are eliminated, and, perhaps because of a knowledge of the fact that they have weak eyes, are more carefully guarded for symptoms that would indicate an increase of their trouble. There can be more or less frequent interviews between parents and teachers as regards the improvement of the condition and the abatement of symptoms previously complained of. Suggestions can be made by one to the other of symptoms observed only by one, and thus serious after-effects can be frequently avoided.

Of all the various symptoms produced by eyestrain, and for which both parents and teachers should always be on the watch, headache is the most frequent. Some observers have stated that fully ninety per cent. of all cases of headache are due to this cause.

If the child starts in comparatively fresh and comfortable in the morning, and as the day advances and the eyes have been employed headache comes on, it is almost certain to be an eye-headache. Occasionally, it may be so bad as to be present most of the time in the morning as well as later in the day. Any child discovered to be suffering from frequent headaches should be referred to the parents with a suggestion that a competent oculist be consulted at once regarding the condition; and if there were some school rule that made it obligatory upon the part of the parents to carry out the suggestion before the child be permitted to return, much of the chronic nervous invalidism of later life would be prevented. The headache may not be a headache pure and simple, as that term is generally employed, but an eyeache, pain in the temples or any other portion of the head; even an uncomfortable sensation of discomfort at the back of the neck or between the shoulders has frequently been observed to have been produced by eye-strain.

There is one point in connection with the sending of a note of warning and advice to the parents, and that is that the term "eye doctor" should be employed instead of oculist. So many of the parents are apt to make no distinction between an oculist and an optician that this is necessary. An optician may grind and adjust the glasses, but is not qualified to treat the different eye affections from a medical standpoint, and this proper treatment and advice is absolutely necessary in these cases.

In addition to these distinct or vague pains in the head and eyes, oftentimes curious nervous symptoms become manifest and may be observed first either in the home life, or in the school-room. Slight twitchings of the muscles of the eyelids or of the face, which may indeed extend to the shoulder or side of the body—a form of so-called St. Vitus' dance—are frequently observed, and are entirely relieved by the employment of proper means to get rid of the eye-strain. Some years ago, I had referred to me for an examination of her eyes the young daughter of one of our most famous national musicians who had been suffering for several months with quite a severe attack resembling St. Vitus' dance—an attack so serious that her parents had been advised to take her out of school and place her amid quiet country surroundings for a time. An examination of her eyes revealed the fact that she was slightly near-sighted and astigmatic in one eye, and slightly far-sighted and astigmatic in the other. Suitable glasses to correct these defects were ordered to be worn constantly, and within a few weeks the nervous condition, from which she had suffered for months, had entirely disappeared, though she continued to pursue her studies at school. I mention this incident simply to illustrate that sometimes conditions seemingly, to the lay mind, having no connection with the eyes are in fact produced by some of the various optical defects and are to be watched for carefully.

Greatly defective eyesight, if in both eyes, should be detected by the parents at home before the child enters school, unless perhaps he is entered in the kindergarten. Certainly it should be detected by an intelligent teacher in a very short time. The child complains of inability to see the work upon the blackboard and holds his eyes much nearer the printed page in reading than is ordinarily done. He makes no complaint of this because he knows no better. He has always been so and thinks nothing of it. The fact that other children, blessed with better eyesight, can see objects that he can not discern does not appeal to him because of his youthful age. Many children considered stupid and dull are only so because they do not see and are too young really to understand what the trouble is or how to explain it. Such cases, with improved eyesight, due to correcting glasses, have a new world opened up to them and frequently lose their apparent stupidity and dulness by becoming the brightest of their classes. One of my patients, now a married woman with children of her own, who is so near-sighted that if she does not know where she has placed her glasses at night has the greatest difficulty in finding them in the morning, once told me that she would never forgive a certain distinguished teacher who had, in her early childhood, held her up to ridicule before the class because she could not read the lesson from the blackboard. She herself did not know what the trouble was. She simply knew that she could not see it, and yet her word was not accepted, and it was not until some years afterward that it was accidentally discovered that she was extremely nearsighted and could not distinguish a man from a woman on the other side of the street.

Red and inflamed eyes and redness of the eyelids should be at once detected in the home or school, and proper and competent advice sought regarding the condition. It is so easy for some virulent contagious eye affection to spread throughout the school and to involve a large proportion of the pupils, and again it is so easy for an apparently simple inflammation to so affect the eye as to destroy all or a portion of the sight, that such cases should be excluded from the school-room until the condition has been examined and passed upon by an oculist. Children with squinting eyes, or so-called "casts" of the eye, should be referred for treatment as soon as the condition is discovered, regardless of the age of the child. By early treatment, sometimes beginning even in infancy, loss of vision in the squinting eye can be prevented, and the eyes may be straightened without the performance of a subsequent operation.

Considering these facts, in what manner may the teacher and parents coöperate, each with the other, in detecting these faulty eyes and in keeping them in the best possible condition after the defects have been corrected? In what manner also shall the teacher and parents coöperate with each other to promote and maintain the health of the normal eyes of the children? All parents should watch for defects in the eyes of their children as carefully and as regularly as they watch for the outbreak of any disease. If a child complains repeatedly of persistent headache or eyeache, especially if it seems to be worse after using the eyes, or if there seems to be developing more or less irritability of temperament and twitchings of the muscles of the face or upper portion of the body, or if there seems to be an inability to see well, either for near or distance, or the eyes become red and inflamed, the child should be taken at once to an oculist for examination, advice and treatment. These symptoms should not be neglected, as is frequently done, with the idea that the child will outgrow them. In the homes of our better classes at the present time most of these conditions receive prompt attention, but unfortunately the homes of all public school children do not fall in this happy division. In many of the homes the parents are either ignorant or greatly prejudiced and but little attention is given the children's general condition, much less to such a small organ as an eye. In connection with the large clinical services of some of our hospitals we see perhaps this phase of life more than we otherwise would under ordinary circumstances, but what can we expect in the line of coöperation from such parents? Almost nothing. The children are obliged to attend school because of compulsory education; therefore it falls to the teacher's lot to detect the various eye troubles and to send the little one home to be attended to or not, according to the whims of the parents, unless the child can be excluded from attendance until a certificate is obtained from an oculist. As soon as any defect of the eyes is discovered by a teacher it should be within her province and power to send the child home with a note requesting the parents to consult an oculist at once regarding the condition. Among the better classes the parents are naturally greatly interested in the welfare of their children, and their children's eyes, and should there be any doubts in their own minds regarding the existence of any eye defect, by consultation with the teacher and careful observation on the part of both, it may soon be discovered.

Much, if not most, of the work of eliminating children with defective eyes that formerly fell to the lot of the teacher, can be thoroughly and satisfactorily done by a system of medical inspection, provided there are a sufficient number of inspectors. Within a few weeks there has been appointed in this city a corps of medical inspectors under the general supervision of the Director of Public Health, whose duties, among others, shall be to make daily inspection of the public school children and exclude all those found to be ill. Those affected with any disease supposed to be in the least contagious are sent home with a card bearing the diagnosis of the condition, and informing the parents that they will not be permitted to return until the affection has been cured. During the few weeks that have passed since the inauguration of the system I can testify personally that many children affected with red and inflamed eyes have been excluded from some of the schools because they have presented themselves for treatment, bringing their cards, at two eye clinics with which I am connected officially. I can testify further that many children have applied for treatment because they were found by the inspectors to have defective eyesight, notice to this effect having been sent to their parents. Whether the systematic testing of the eyesight at stated intervals, however, is to be a part of the medical inspectors' regular work remains to be determined. During the first fourteen days of the medical inspection of schools in Philadelphia after the system was inaugurated, 1035 children were sent home because of some eye affection; of these, 450 had defective vision and 585 some inflammatory condition, 73 per cent. of which were contagious.[1]

A most admirable method for the annual examination of school children's eyes by the teacher was adopted by the Board of Education of Philadelphia in January, 1902, upon the recommendation of the Public Education Association of the city. It consisted of two cards, one for testing the distant vision and another for testing the near vision. Simple directions were printed on the backs of the cards and it was the idea that the teachers would test a few pupils each day until all of the eyes had been examined. Those having defective vision were given a printed note to that effect with advice to the parents to take the child to an oculist for treatment. But a few minutes of the teacher's time would have been required each day until all were tested, and the aggregate results obtained in the amount of good done the affected children, to say nothing of the better work obtained from better eyesight, would have been incalculable.

In connection with the discussion of the system I want to mention here some statistics from one school in this city in which the examinations were made. Mr. Oliver P. Cornman, principal of the Northwest School, reports in *The Teacher* for October, 1903, that in his school in January, 1903, all of the pupils were examined with the following result: Number of pupils tested, 779. In 266, or 34 per cent., a slight defect of the eyes was found; in 249, or 31 per cent., a marked defect was found. In other words, out of 779 pupils 515, or 65 per cent., had more or less defective eyes. Granting that the pupils in this school may have had exceptionally poor eyes, is it any wonder that we are constantly urging that the proper examinations be made to detect these conditions and that the little ones have their eyes so treated that they can be made more equal with their fellows in the great struggle for existence? Now what about the results of this examination so far as the parents were concerned? Out of the 515, 105, or 20 per cent., refused to have anything done; 286, or 55 per cent., promised to have the eyes attended to and 126, or 25 per cent., actually were treated for their abnormal condition. The same author reports that six months later those who had promised to have the matter attended to had not done so. This leaves the affected eyes of 75 per cent. of the pupils uncorrected. Hence the great necessity for annual examinations, and compulsory attendance to the condition on the part of the parents or guardian.

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[1] The school population of Philadelphia in 1904 was 155,707. The number of pupils found by the medical inspectors to have some optical defect or eye disease was 10,904. Of these, 1,018 were more or less contagious. In 1905 the school population was 156,044. The number of pupils having optical defects or some eye disease was 15,165. Of these, 1,454 were more or less contagious. In 1906 the school population was 159,217. The number, of pupils excluded because of optical defects or eye disease was 13,237. Of this number, 551 were more or less contagious.

Unfortunately, the system has not been so thoroughly executed in all schools. Many examinations were made, numerous children with defective eyesight were found and had the defects corrected; numerous others are still in the schools with uncorrected defects because of the ignorance or carelessness of their parents and because there is no rule to compel them to seek the necessary attention. It is to be sincerely hoped that this, or some other equally effective system, will be officially adopted and executed by our board of medical inspectors, and that there will be sufficient power behind them to insist that the parents of those whose eyes are found to be defective consult some competent oculist in the matter and secure from him a certificate stating that the children's eyes have been attended to before they may be reinstated in school. The enormous benefit that will accrue to the children themselves, aside from any philanthropic motives, and the preservation of the health of the future citizens of the commonwealth as a matter of economy to the state, will more than repay all the efforts made in their behalf.

If there were any excuse required for urging these annual examinations by teachers, where no medical board exists to perform the duty, it might be added that they have been satisfactorily employed (though perhaps not so systematically as desirable) in Minneapolis, St. Paul and other Minnesota cities for several years, having been inaugurated by that champion of the system, Dr. Frank Allport, of Chicago. At the last meeting of the American Medical Association, the largest medical organization in this country and one composed of members from every State and Territory in the country, the following was adopted:

> WHEREAS, The value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures, therefore be it
>
> *Resolved*, That it is the sense of the American Medical Association that measures be taken by boards of health, boards of education and school authorities, and when possible, legislation be secured, looking to the examination of the eyes and ears of all school children, that disease in its incipiency may be discovered and corrected.

Since this meeting this resolution has been adopted by nearly every State Medical Society which has convened. The tests are now in systematic use in Connecticut (by an act of legislature), New York, Illinois, Indiana, North Dakota and Montana (by action of the state boards of health), and Texas, Kansas and Minnesota (by action of the state boards of education).

In conclusion, there are a few simple points to which I desire to refer that are essential for the maintenance of good eyesight and comfortable eyes. One of the most frequent faults that has been observed in young children, and sometimes in adults also, is that of placing the eye too near to the work or vice versa, holding the work too near the eyes. It is a most unfortunate habit, one difficult to correct, and yet one that will surely lead to trouble if persisted in. The nearer a small object, such as the printed page, is held to an eye, the more cross-eyed we are looking and the greater the amount of strain upon the eyes. This in time will produce some of the nervous conditions previously referred to and in some instances even near-sightedness which may progress. All of us should hold our reading matter, or work, as far from the eyes as it can be distinctly observed without effort, usually fifteen or sixteen inches for ordinary print, and any child who has formed, or is forming, the habit of holding it much nearer than this distance should be carefully watched and repeatedly corrected both at home and at school. The desks in the most modern schools at the present time are so arranged as to avoid this too great proximity of the eyes to the work.

There should also be more or less regular intervals of rest for the eyes, during which the pupil's attention be directed into the distance some twenty feet, or more, away. This can be readily accomplished by the relation of an occasional anecdote by the teacher or by the reading of some good story. In this way the eyes are given rest from near work and are able to be employed much longer and with greater ease when it becomes necessary. The usual recesses, with the accompanying relaxation from work and the healthful exercise in the open air, are also means to the same end.

So much has been said concerning proper illumination, the size and quality of the print for children's books, and the style of penmanship best for the eyes, that I need not do more than repeat that they are matters of great importance to be given due consideration both in the school-room and at home. I do wish to call attention, however, to one thing that is a source of much annoyance and trouble and one very difficult at times to correct, and that is the entrance of direct sunlight into the school-room in such a way that some children must face it, or its reflection upon the blackboard or walls of the room. Shades should always be arranged for modifying its effect as much as possible, and as green is a very restful color to the eyes this might be given due consideration in their selection.

In the time that has been at my disposal this afternoon it was impossible even to mention many points of importance in connection with school hygiene as regards the preservation of the eyes.

The object of the paper has been to direct attention to a few of the more important, and especially to emphasize the value of annual systematic examinations of the eyes of all pupils by some one competent and willing to make them. If we cannot obtain these examinations in the different states by impressing upon boards of education, boards of health and others in authority, their great value and importance, then let us seek legislation as has been done in Connecticut. I am confident that all of you will agree with me, if you take the least time and trouble to look into the matter and see for yourselves how greatly handicapped some of the children are because of their poor vision, that it is an act of the greatest philanthropy to urge the detection and correction of the defects, as has been done by the Public Education Association of this city, that they may be placed in a better position to engage in the great and unequal struggle for existence.

TRANSACTIONS.

OF THE SPECIAL CONVERSATIONAL MEETING AT PITTSBURG.

CARNEGIE LIBRARY, PITTSBURG,
January 2, 1908.

The Academy met in executive session at 12.00 M. with the president, Dr. Thomas D. Davis, in the chair.

The secretary reported a recommendation from the Council as follows:

That a committee be appointed, largely from the corresponding delegates present at this meeting, to formulate the results of the Conference, for presentation to the Academy at its next annual meeting.

The report was accepted and the recommendation adopted upon motion.

The Council recommended the election of the following gentlemen to Fellowship.

Harry C. Pohl, Nazareth, Pa., Lafayette, 1895; Medico-Chirurgical, Philadelphia, 1902.

George Gilbert Davis, 100 State St., Chicago, Univ. of Chicago, 1901; *Ibid.*, 1904.

William Sohier Bryant, 57 W. 53rd St., New York, Harvard, 1884; *Ibid.*, 1888.

Edgar A. Vander Veer, 28 Eagle St., Albany, N. Y., Yale, 1895; Albany Med. Coll., 1898.

John Bernard Macdonald, Augusta, Me., St. Francis Xavier (Nova Scotia), 1900; Maine Med. School, 1904.

Harry George Thomas, Victor, Colo., Denver Univ., 1906; Omaha Med. Coll., 1896.

John B. McAlister, Harrisburg, Penna., Pennsylvania College, 1884; Univ. of Pennsylvania, 1887.

Arthur E. Wade, Lexington, Neb., Cornell College, 1902; Sioux City, Coll. of Med., 1905.

Ray O. Hummell, 140 So. 13th St., Lincoln, Neb., Univ. of Nebraska, 1902; Northwestern Univ., 1905.

The Academy took recess until 2 P.M., when it was called to order in a conference with a number of invited delegates, interested in the problems of medical education.

President Thomas D. Davis, in calling the meeting to order, said:

It becomes my pleasant duty as president of the American Academy of Medicine to welcome you here on this occasion and to express the hope that our deliberations may be of much value to the various organizations we represent. I have long since found that the best work is often done by a few rather than by great numbers. Where a few can assemble with a direct purpose in view and with a desire to work out some definite conclusion, very much more is accomplished than by great numbers who are merely enthusiastic and take no definite action. Dr. McIntire will speak more specifically of the object of this conference, but it seems to me that its importance cannot be too much emphasized. The necessity for a more evenly balanced preliminary and medical curriculum has for several years been impressed upon me. As you know, the organization of this Academy was for the purpose of advancing medical education, both preliminary and professional. That is the foundation upon which it was originally established and upon which it has been working for a third of a century. Through its influence much has been accomplished. However, when the pendulum swings one way for some distance, it occasionally happens that it swings too far the other way, and so we find that in trying to advance medical education, it has unfortunately been surrounded with time requirements which seem to necessitate the lowering of preliminary preparation. When this Academy was started and for many years afterward, a two years' medical course was the longest required by any institution in America. As the lectures in each of these years were exactly the same it was virtually a one year's course; Now all medical colleges and most state laws require four years in a medical college before being permitted to practise. The result is that with a four years' medical course, and the four years' academic course, and the four years' high school course, the number taking the college course has fallen rather than risen. This is contrary to the desire of the Academy and to the purpose for which it was organized. We hope, therefore, you may suggest some practical remedy for this trouble. Not that we think or ever did hold that all medical men should be required to take a full academic course, but we do think that they should not be prevented from doing so by simple time requirements.

My province, however, is to welcome the Fellows in attendance and the delegates who have done us the honor to come so far to attend this meeting. We have quite a number of delegates with us from various institutions, in widely separate states, thus showing great interest in the objects of this Conference. We are certainly very glad to have these representatives with us and we shall be pleased to have them all join in our deliberations. As stated upon the program it is a conversational meeting, where each may feel free to express his views.

I am pleased to announce that I hope during the sessions to have the directors of the different departments of this great institute, in which we meet, come before you and possibly explain some of its wonderful work. There are really five departments in the institute. The library is owned and paid for by the city of Pittsburgh. The Art Gallery is endowed and under the immediate management of a director. The museum is endowed and is under the care of a director and a large number of curators. The Technical School is under a director and a large faculty with upward of sixteen hundred students and a waiting list of several thousand. The Music Hall or musical department is the home of the Pittsburgh Orchestra and is self-supporting. What you see in this institute and what is being accomplished are due primarily to the generosity of Mr. Carnegie, but his gifts would be of comparatively little value if it was not for the work of the Board of Trustees of this great organization. This board is composed of some of our very best citizens. No less than eight different colleges are represented upon it. Its members are mostly men of wealth, of education, of taste and of culture and devotedly interested in its welfare. Mr. Carnegie has paid the bills, but has never had anything to do with the details of this great work. This building was designed by the Pittsburgh branch of the great Richardson firm of Boston, the other branch being the architects of the Harvard Medical Schools. But while these gentlemen have exhibited great talent, yet all who have had to do with architects know how much also must be due to the excellence of the Board of Trustees. The gentlemen of this board do not have their names flared in the yellow newspapers and no finer body of men can be produced by any city and they give their time and great ability gratuitously to the management of this unique institute. But I am transgressing upon your time. Allow me again to welcome you and wish you success in your deliberations.

The first paper for this day was by Charles McIntire, A.M., M.D., Easton, Penna., the chairman of the committee that planned the meeting, on "The Purpose of the Conference."[1]

The subject for discussion for the afternoon was "*The Medical Curriculum;*" this was presented to the Conference in the following papers:

(1) "A Criticism upon the Present Curriculum,"[2] by Henry Beates, Jr., M.D., Philadelphia.

(2) "The Essentials of a Medical Education."

(*a*) Murray Galt Motter, A.M., M.D., Washington, D. C.[3]

(*b*) David Starr Jordan, M.D., Ph.D., LL.D., Leland Stanford University, California.[4]

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[1] See page 4.
[2] See page 9.
[3] See page 18.
[4] See page 29.

(*c*) Roland G. Curtin, M.D., Ph.D., Philadelphia.[1]

(3) "The Danger of Attempting Too Much,"[2] Frederick H. Gerrish, M.D., LL.D., Portland, Me.

The discussion was opened by Dr. Clara Marshall, Dean of the Woman's Medical College, of Pennsylvania, and quite generally participated in by those present.

The president announced the following committee to formulate the results of the Conference.

Dr. John L. Heffron, Syracuse, N. Y., *Chairman*.
President, A. B. Church, Buchtel College.
Dr. Joseph H. Raymond, Secretary of the Faculty, Long Island College Hospital.
Dr. Murray Galt Motter, Washington, D. C.
Prof. Robert W. Blake, of Lehigh University.

At the conclusion of the discussion, the Academy took recess until eight o'clock, when an informal conference was held on: "What Are the Principles Underlying, and What Provisions Should Be Included in a Medical Practice Act." The conference was under the guidance of Dr. Alexander P. Craig, of Philadelphia, the assistant secretary of the Academy, and also secretary of the Committee on Public Policy and Legislation of the Medical Society of the State of Pennsylvania. This committee is at present engaged in the preparation of a new medical practice act for the approval of the state society as the basis of attempted legisation at the next meeting of the Pennsylvania legislature. The Conference was a spirited one continuing until late in the evening. At its conclusion, the Academy adjourned until Friday morning.[3]

CARNEGIE LIBRARY, PITTSBURG,
January 3, 1908.

The Academy reconvened at ten o'clock and at once proceeded to the presentation of the topic for the day: "*Preparing for Medicine.*"

The following papers were presented:[4]

(1) "What Can the College and Fitting School Do to Aid in the Study of

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[1] See page 34.
[2] See page 37.
[3] The full report of this discussion will appear in the BULLETIN for June, 1908.
[4] To be published in the April, 1908, BULLETIN.

Medicine?" by W. F. Mercer, Ph.D., Athens, O., professor of biology and geology in the Ohio University.

(2) "What Are the Essential Subjects of General Information to be Possessed by the Physicians?" by the Rev. James D. Moffatt, D.D., LL.D., Washington, Penna., president of Washington and Jefferson College.

(3) "How Can the 'School Life' of the Intending Physician Be Arranged to Produce the Desired Training with the Most Economical Expenditure of Time?" by Albert Vander Veer, M.D., LL.D., Albany, N. Y., regent of the New York State University, and read by Maurice J. Lewis, M.D., New York City, secretary of the Board of Medical Examiners of New York.

The discussion was opened by the Rev. A. D. Church, D.D., Akron, O., president of Buchtel College, and were followed by a full and free general discussion.

At twelve o'clock recess was taken until two, and the members of the Conference were shown a part of the Carnegie Institute under the personal guidance of W. J. Holland, Ph.D., LL.D., Director of the Institute. The discussion was continued after recess, and at its conclusion, the Academy held a brief executive session.

The Council reported favorably upon the application of

Thomas Turnbull, Jr., 835 Western Ave., Allegheny, Pa., Cornell, 1888, University of Pennsylvania, 1887,

and the Secretary was instructed to cast the ballot in his favor.

On motion of Drs. McIntire and Motter, the following minutes was adopted:

The Academy wishes to acknowledge the courtesies of Mr. Anderson H. Hopkins, librarian of the Carnegie Library, in providing us a place for meeting, and in otherwise looking after our comfort; to Dr. Holland and Professor Hammerschlag, of the Carnegie Institute and the Technical Schools, in showing us some of the riches of their respective departments.

To our guests, who, by their papers and discussions, have made this the successful meeting we feel it to be.

To the Press of Pittsburgh for their interest shown in the proceedings and for their published reports.

On motion, the special meeting of the Academy adjourned. After adjournment, Librarian Hopkins escorted those present through the Library.

CHARLES McINTIRE, *Secretary.*

OBSERVATIONS IN PASSING.

The scope of the subject for the Symposium at the next meeting has been enlarged. The revised caption is "The Place of Woman in the Modern Business World, as Affecting Home-Life, the Marital Relation, Health, Morality and the Future of the Race." There is still room for a few papers in the Symposium, and fellows are requested to write to the Chairman of the Committee, Dr. D. C. Hawley, Burlington, Vt., for particulars.

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THE CHICAGO 1908 MEETING.

The time for the next annual meeting approaches rapidly. The preparations, well in hand, must soon be perfected. Every one who desires a successful meeting must himself be a factor in assisting to make the meeting a success. It is a duty from which none can escape, and which all can make a pleasure.

The Committee of Arrangements has selected the Lexington Hotel as the Academy Headquarters. It is situated at the Corner of 22d Street and Michigan Avenue. It is kept upon the European plan, and the following scale of prices has been arranged (for rooms only).

One in a room, $1.50 to $2.00; with bath, $2.00 to $3.00 a day.

Two in a room, $2.00 to $2.50; with bath, $3.00 to $5.00 a day.

The hotel is conveniently situated, in a pleasant part of the City and within a short distance of the headquarters of the American Medical Association. The hotel management will extend the courtesy to the Academy of furnishing rooms for the meeting and for committees without charge. Here begins the first duty of the members of the Academy. All who are expecting to attend should at once make their reservations with the management of the Lexington. It is the least one can do to reciprocate the courtesy, and it affords added pleasure in the increased opportunity for social intercourse and good fellowship not offered in any other way. The Committee of Arrangements has elected Dr. S. C. Stanton (1040 Sheridan Road) as secretary of the committee. Those who are acquainted with Dr. Stanton can testify of his infinite patience and unlimited good nature. He will be pleased to reply to any inquiries in connection with the local arrangements.

Another present duty is to remember the Program Committee. Write at once to the chairman, Dr. Donly C. Hawley, Burlington Vt., if you are thinking of preparing a paper. The advantages of an early published program in securing interest in and attendance upon a meeting is incalculable.

Then, it is but a slight thing but helpful, advise the Secretary if you are thinking of attending the meeting. Frequently some information of value to those who attend can not be given because there is no time to send out a general circular, but which can be easily sent to those who are registered as planning to attend.

With a very successful intermediate meeting, the first effort of its kind, in the history of the Academy, a little forethought and early coöperation can make our coming meeting more successful than any previous meeting in the third of a century of the Academy's life.

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There is an ever-present duty—that of presenting the claim of the Academy to your friends who are eligible. There are thousands of physicians whose qualifications are those required by the Academy for membership. Hundreds of these could be induced to apply for membership were the subject brought to their attention in a proper manner. Application blanks can be secured from the Secretary at any time.

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The Kentucky State Medical Association has sent to the Medical press a circular with a "Scare" head-line: "The Doctors *vs.* the Nostrum." In all probability it will have been printed in full in journals accessible to our readers before this issue, which makes it unnecessary to reprint it here. Briefly, the Society congratulates itself on the results of its "Insurance fight," and suggests that its next contest should be directed against the "Nostrum." The Society adopted a series of resolutions condemning the evil, commending the Council of Pharmacy and Chemistry of the American Medical Association, and urging physicians not to make use of preparations that have not the approval of this Council. The resolutions are timely, and free from much of the boycott idea, which is so apt to creep in legislation of this kind. The astounding advances towards medical organization during the past few years has a danger in the misuse of the power which, at last, the profession is realizing it possesses. Concert of action is desirable, but impelled by a unity of conviction and not by the vote of a majority, Kentucky is to be congratulated not only on her position regarding Nostrums, but on the way in which she defines her position.

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But, after all, in our zeal to remove the stigma of prescribing combinations of unknown composition, let us be charitable. The "Nostrum vendor" is not sinning above many who are striving for wealth in other lines of business. Let us not expend much energy in condemning him, until we have removed most of the odium from among ourselves. The question is a complex one, and may be solved with fewer heart-burns if hard names are not called. Let the good work go on—and from Council of Pharmacy and state and county society, let there be a campaign of education. Knowledge and publicity, and a sound public opinion will make short shrift of the Nostrum evil.

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The students of the Medical Department of the University of Pennsylvania have organized a miniature American Medical Association, to acquaint themselves with that organization and its method of work.

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We are in receipt of the preliminary announcement of the International Congress on Tuberculosis, which is to be held in

Washington from the 21st of September to the 12th of October, 1908. Dr. John S. Fulton, 714 Colorado Building, Washington, D. C., is the Secretary-General.

The Congress will be divided into seven sections—I Pathology and Bacteriology; II. Clinical Study and Therapy of Tuberculosis; III. Surgery and Orthopedics; IV. Tuberculosis in Children—Etiology, Prevention and Treatment; V. Hygienic, Social, Industrial and Economic Aspects of Tuberculosis; VI. State and Municipal Control of Tuberculosis; VII. Tuberculosis in Animals and its Relation to Man.

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It has been asserted, and we think with a show of reason, that all hospitals partaking in any degree of a public character, should be institutions for instruction. One way in which the Mt. Sinia Hospital of New York accomplishes this duty is by publishing its annual volume of reports. Volume V, for 1905 and 1906, edited for the Medical Board by N. E. Bull, A.M., M.D., and published in 1907 is on our table. It places much of the experience of the hospital at the service of the reader.

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RHODE ISLAND STATE BOARD OF HEALTH.

Examination—January 1908.

	Passed.	Failed.	Total.
MARYLAND			
Baltimore Medical College	0	1	1
Baltimore University	0	2	2
Maryland Medical College	0	1	1
MASSACHUSETTS			
Tufts Medical College	1	1	2
NORTH CAROLINA			
Leonard Medical College	0	1	1
Non-graduates[1]	2	0	2
Total	3	6	9

⁂

On page 500, in the December, 1907, Bulletin an extract was printed from the *Montreal Medical Journal*. The entire article had something to say regarding some of the Canadian Medical Schools that do not possess all the facilities suggested as essential in the quotation. *The Maratime Medical News* for November refers to the article in the *Mcntreal Journal*, from which we quote that the other side may have a hearing.

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[1] Both non-graduates were 4th year medical students.

"We frankly concede that the Halifax Medical College lacks the equipment in which the larger schools glory. It has never benefited by 'large subvention from the state or from private munificence.' But, thanks to the devotion of the men comprising its teaching staff, it has, through many discouragements, continued to do the 'impossible,' and *has* taught medicine to a body of men who not only do their alma mater credit, but whose professional career compares very favorably with that of those who have graduated from the large and richly endowed colleges. Those who teach at the Halifax Medical College know that they cannot depend upon an elaborate array of mystifying paraphernalia to impress their students, and consequently they content themselves with a plain and practical presentation of fundamentals, aiming always to equip the students with that knowledge which will insure their success in practice. The teaching may be deficient in the spectacular, but it is honestly given, and given at a real sacrifice on the part of every teacher, for no one would argue that the ridiculously small return from students' fees can be regarded as in any way a recompense for the expenditure of time and labor which the teaching demands. The best indication of the value of that teaching is the record of the men who have passed through the College."

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There is much in this reply worthy of consideration. The same thought came to the surface in the discussion at Pittsburg. It is an old story oft repeated, this need of men less expensively taught to fill the vacancies in rural districts; or the other refrain, that science teaching diminishes the ability of the man to adjust himself to simple conditions, and makes him less able to combat disease without the use of instruments of precision.

AFTER CONSULTING HOURS.

PRACTISING IN PIKE.

By Thomas Hall Shastid, A.M., M.D., LL.B.

VII.

THE OLD HOME.

One block from "town," as the quiet little square is called in Pittsfield, and on the street that leads to the "Union" depot (as the shed-like structure is by way of derision called) stood, in the days of which I write, and still stands, in a corner, and altogether too close to the sidewalks (though not too close for invalids' convenience) an old-fashioned, rather antiquated, not altogether palatial, and somewhat crumbling two-story brick house—the house of my father. At its right projects a one-story red frame ell. Where the streets meet, and from a spot outside the sidewalks, rises a huge, spreading cottonwood tree, whose branches, reaching fan-wise across the principal portion of the building, shelter it from the sun at all hours—a truly Esculapian shade. In the yard, before the ell, is a well-curb, at which children from the Methodist church across the street, gather on Sundays in such throngs, that were it not for their extreme vivacity and most obvious health, they might be supposed to be the multitudes which used to gather about the springs of the old Greek God of healing.

Beyond the ell, and still farther to the right, is a barn, flush with the sidewalk—handy on bad nights. How many a time, at darkest hours, and in the rain or the snow, has my father not driven across that sill into the biting blasts or to the tune of resounding thunder.

On the other street, the main artery of the city, can be beheld at the present day an object of peculiar family pride—a detached office. It is not an imposing structure, but it *is* truly convenient, it *is* comparatively recent, it *is* well painted, and, above all things, it *is* detached. The family waited long for it. And now, as I say, there is a pride—not altogether too late—in the great "detached office." It must have cost at least four hundred dollars. This, however, is in the present time, and was not in the days of which I write. In the days of which I write there was no detached office; but, in a door of the house that fronted on the same great thoroughfare, were set two panes of glass, whereon school children used to flatten their little noses in order to behold, awe-stricken and fascinated, the rows on rows of suggestive bottles and the hideous, in-dreams-again-appearing skeleton. From a rod affixed to the wall over the door, depended a swinging sign, on which was written, in letters of unsymbolic gold:

THOMAS W. SHASTID, M.D.,

PHYSICIAN AND SURGEON.

VIII.

SETTLING UP.

Those who came to settle in produce almost always acted less jocularly than those who came to settle in cash. Why this was, I never knew. Perhaps it came from a feeling on the part of the cash people that there was something essentially ridiculous in the payment of money to a doctor. At all events the fact remains. No matter how large and how glorious the pumpkins, or how cool and fresh and sweet-scented the butter, or how dry and well-seasoned and closecorded and full-measured the fire-wood, the people who brought these articles seldom seemed to regard the matter as other than a mere business transaction. When they brought cash, though, then, as I have said, it was a different affair.

Sometimes the good-humor which seemed necessarily to attend the cash transactions would display itself in facetious appellations for the article delivered. One man would denominate it "shinplasters;" another, "a cyore for the sore eyes;" still another, "the hot stuff," or "the dough," or "the good old wherewith." One called dollars "devils." "Well, Doc, there's five devils, there's six devils," and so on. Once, when this person was making a payment, my father, at that time happening to be particularly hard up, exclaimed, with a laugh, "Devils! Angels of light and mercy you mean, man!" Sometimes, as a man paid, he would say, "I think *you* ort to pay *me*, Doc. You done the hurtin'." A woman, paying for the cutting of her little daughter's tonguetie, remarked, "Well, *I*'m obliged to ye, but I don't know whether her futur husband will be."

Sometimes the facetiousness took the form of a practical joke. For instance, there was Uncle Jimmy Carroway, who always went first to the corner grocery to get fortified, and then with a whoop and a *hoo*rah, would come tearing down on his little bay mare, *litty-cut litty-cut*, and draw up suddenly before our gate, yelling imperiously, "Hello! hello in there, Doc! Come out!" And my father would issue forth, perhaps with a book in his hand, and at all events bareheaded. Then the reeling old drunken man, taking from his pocket a roll of bills about as thick as an ear of corn, with much deliberation and with many grimaces and unnecessary thumb-lickings would unwrap the outer husk—if that be not an undignified term for an article of so great beauty and intrinsic value—and hand it to my father. Placing the roll back in his pocket, he would whip up, yell, and be off around the corner. My father, though, would not at once come back. He knew too well the methods of the man he dealt with. Here, sure enough, in a few moments, would return Uncle Jimmy. Once more he would produce that roll of bills, once more he would unwrap the outer one and deliver it to my father, and then, once more replacing the bills in his pocket, would yell, whip up, and be off around the corner. Then he would come again, and again pay and be off again. And come again, and again pay and be off again. And so on, until he had paid the sum he had come intending to pay. "It makes the money *seem* more," he explained, "is why I do it."

Once he came and called my father out in the customary manner on a coolish evening. My father, as usual, went forth bareheaded, and Uncle Jimmy, in the usual way, delivered to him a one dollar bill. Then he whipped, and was off. My father for some time remained standing in the chilly air. Then he buttoned up his coat to the chin. Then he began to slap his arms rather vigorously about his breast. Presently, looking a little serious, he stepped to the corner. I saw from the window what had happened. Uncle Jimmy had gone, no more to return that night. When my father came back to the house, he looked both cold and sheepish.

OPEN LETTERS TO THE PEOPLE FROM MEDICAL MEN.

By James A. Spalding, M.D., Portland, Maine.

A LITTLE EPISODE IN THE LIFE OF DR. NATHAN SMITH.

The topic of writing medical letters for the public press has always interested me, and from my extensive reading I can recall many instances in which it used to be of great benefit to the public at large. After a while the custom degenerated into laudatory puffs, or the airing of medical disputes, or into mere schemes to get on with the people in one's own practice. Nowadays, physicians rarely appear in print in the newspapers; what medical news the people get is filtered through the uneducated reporters, and physicians, generally, have little to do with health or politics, for the pendulum has swung to the opposite extreme. I believe that the time will come when instead of one physician alone, appearing in print for the benefit of his fellow citizens, a committee from the leading medical society will do a work, so often needed, of instruction in times of epidemics or public agitation concerning the water and milk supplies, or for the public health on the whole. However this may be, I was more than usually pleased on finding in an old scrap book of my Grandfather, Dr. Lyman Spalding, an Open Letter from no less a person than our celebrated Dr. Nathan Smith, in a so-called murder case in which an innocent person had been subjected to the insults and injuries of a mob, ran a serious risk of being hanged to a neighboring roadside tree, and finally put into jail to await her trial.

The case ran something after this fashion: A hundred years ago there was a mysterious death in a quiet New Hampshire town. A lady was arrested for the murder of her step-son, on very doubtful evidence, but sufficient in the public mind to convict her absolutely. Public excitement ran high, and if the trial had taken place during that exciting interval the accused woman would have stood very few chances with any jury thereabouts.

The testimony all went against the prisoner from the start, for the physicians asserted that on examining the body removed from its grave fifteen days after death, the head and neck were found much swollen, there was a spot of mortification on the stomach, the surface of that spot was covered with a shiny crusty substance resembling arsenic or quicksilver; that the contents of the stomach had discolored the dissecting knife; that they saw the gross appearance of arsenic in the stomach immediately after washing it; that they tried many chemical experiments by way of boiling metallic substances in the contents of the stomach; that they subjected some of the contents to intense heat for many hours, and finally when the substance was mostly reduced to ashes they found large lumps of a hard consistency of a metallic hue resembling arsenic, mingled with lead and stone. All of these symptoms and experiments in their opinion proved that the patient had been poisoned with arsenic. Another physician testified that he had seen a similar case with the same symptoms in a patient in Vermont who had died from arsenical poisoning.

This evidence was handed in to the Court, and the prisoner held without bail for premeditated murder.

At this juncture of affairs Nathan Smith heard of the case, and went to the spot, looked over the testimony, conversed with the experimenters, and then came out with an Open Letter to the people to this effect. That if people had been made acquainted with the symptom of arsenical poisoning by the physicians who had made the post-mortem examination, and if these physicians had made their experiments properly they would have seen the folly of their excitement against an innocent person. For as Smith went on to prove, the symptoms exhibited by the dead person were not in the least like those appertaining to arsenical poisoning. In arsenical poisoning there would have been nausea, diarrhea, pain, intense suffering and long continuance of the symptoms. Yet this person had died suddenly, had exhibited no nausea, pain, diarrhea, or any great suffering. Dr. Smith next went on to show what the tests for arsenic really were, and comparing these with the tests shown by the medical testimony demolished them *in toto*. Then he recalled to mind that the case "over in Vermont" which had been testified to by another so-called physician with similar symptoms was not due at all to arsenic but, as had been proved, to corrosive sublimate. He expressed his opinion concerning uneducated physicians and their folly in coming forward with such outrageously foolish testimony, and declared that they were so uneducated that they did not even know how foolish their testimony was. Finally Nathan Smith asserted that the appearances of the body were nothing more than those due to natural changes fifteen days after death, and that everything went to show that the alleged victim had died a natural death.

This letter written and printed a hundred years ago effected the prisoner's release at once, after proper Court formalities, and nothing more was ever heard of it from a judicial point of view.

Now the only reason for my bringing forward this old letter is to show that just such plain matter-of-fact testimony is what we ought to have put before our Courts in these days, when instead, the experts are subjected to ridiculous questions bearing everywhere except upon the right spot, and thus befogging the entire assembly in the Court of Justice from the bench to the Jury. Whether we shall ever get such expert evidence allowed, remains to be seen. From Dr. Nathan Smith's experience, however, we learn the lesson, that the opinion of a physician in good standing, swearing neither for the State nor for the defense, simply telling the truth so far as he can see it in its plainest aspects, has no uncertain effect upon the public mind. This incident of a century ago shows, also, that similar medical testimony would be of great avail to the Law Courts if only they would give their slow permission in our days.

LITERATURE NOTES.

NOTICES.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR ENDING JUNE 30, 1906. Vol. I, Washington: Government Printing Office. 1907. pp. xlvii + 643.

These reports always contain much of value, and are frequently consulted in the course of the year. The following extract will be of greater value than the same space devoted to a critical opinion of the contents. It is from Chapter XVII, Professional Schools.

> The whole number of students in 1906 in the 152 medical schools of all classes—regular, homeopathic, eclectic, and physio-medical—was 24,924. This shows a loss of nearly 1,000 students from the number of the previous year, and in 1905 there was a loss of over 1,000 from the number in 1904. In other words, the whole number of medical students in 1904 was 26,949, and the whole number in 1906 was only 24,924, a loss during the two years of 2,025 students. It was in 1904 that for the first and only time a medical School in the United States ever enrolled over 1,000 students, namely Rush Medical College, 1,033. In 1906 in the so-called regular schools of medicine there was a decrease of 910 students from the number of the previous year, of the homeopathic students a decrease of 46, but there was an increase of 45 in the number of eclectic and physio-medical students, although the whole number of the latter was only 739. The largest number of homeopathic students ever enrolled was in 1897, 2,038, nearly twice as many as in 1906. The whole number of medical students graduated in 1906 was 5,400, while the number in 1905 was 5,544.

The number of students having a literary degree—*as far as reported*—is given. The following percentages are calculated from the figures given as of interest—of the whole number 8.7 per cent. are credited with a literary degree. Distributed geographically: Students in the north Atlantic division of states, 15.8 per cent.; in the south Atlantic division, 15.4 per cent.; in the south central division, 4.4 per cent.; in the north central division, 5.4 per cent.; and in the western division, 7.3 per cent.

In the "Regular Medical" schools the percentage of students having a literary degree is 8.8 per cent.; in the homeopathic schools, 6.0 per cent.; and in the eclectic and physio-medical schools, 5.4 per cent.

ANNUAL REPORT OF THE STATE BOARD OF CHARITIES (of New York) for the year 1906. In three volumes with statistical appendix to Volume I bound separately. Albany: J. B. Lyon Company, State Printer, 1907.
Vol. I. Text-Appended Papers, pp. 960. Appendix, pp. 964.
Vol. II. Directory of Poor Law Officers and Charities, pp. 815.
Vol. III. Manual of Laws and Rules of the Board, pp. 874.

Space permits but the mention of a few of the more important papers and reports in these volumes. Dr. Stephen Smith's "Suggestions of a plan of organizing a Hospital System for the City of New York," is worth the study of those who are interested in other cities and in hospitals elsewhere than in New York. The report of the Committee on Idiots and Feeble-Minded; report of the Committee on the Study and Care of the Defective; Mental Defect and Crime, are but a few of the papers deserving of notice. The directory and statistical information, while primarily of use to the resident of New York, is of constant use when one is seeking for definite information along these lines.

WELLCOME'S PHOTOGRAPHIC EXPOSURE RECORD AND DIARY, 1908. New York: Burroughs Wellcome & Co., 45 Lafayette Street. Price, 50 cents.

This record with its "Exposure Calculator" is a valuable aid to the amateur photographer, and is well worthy the inspection by every one who makes use of the camera.

SQUIBB'S MATERIA MEDICA. 1908 Price List. A complete alphabetical list of the Squibb products, embracing the articles in the U. S. Pharmacopoeia (VIII Revision) and the Natural Formulary together with the non-official chemicals, pharmaceuticals, tablets and newer remedies in general use. Setting forth the origin, Latin and English titles; Synonyms, physical and chemical characteristics, incompatibility, antidotes, therapeutic indications, doses, etc. Published by E. R. Squibb & Sons, Brooklyn, N. Y.

It is seen by this transcript of the title-page, that the catalog and price-list feature are almost incidental, and the book becomes one of useful reference as an up-to-date compendium of drugs and drug preparations. The value, as in any work of reference, depends upon the character of the compiler. This volume marks the 50th year of the business of the house, which from the first has maintained a high standard of excellence in all its preparations.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the previous issue, that are not otherwise mentioned in this number. The present list records publications received from November 21, 1907, to January 20, 1908, inclusive.]

This notice will be considered a full return for the courtesy of sending us the publication. Additional notices and reviews will be made, depending upon the space available, and for the best interests of our readers as judged by the management. Publications treating of medico-social questions will be given precedence.

Modern Physio-Therapy: The Theory and Practice of Physiological Therapeutics. Otto Juettner, M.D., Ph.D., etc. To be reviewed.

Memorias de la Real Academia de Ciencias Exactas, Fisicas y Naturales de Madrid. Tomo XXV. J. G. Hidalgo—"Monografia de las especies Vivientes del gènero Cypræa.

This monograph of 588 pages is a valuable addition to the literature of this Conchologist.

Revista de la Real Academia de Ciencias de Madrid. Vol. 5. Numbers 9 to 12.

Pollution of New York Harbor as a Menace to Health by the Dissemination of Intestinal Diseases through the Agency of the Common House Fly. Report by Daniel D. Jackson, S. B. to the Committee on Pollution of the Merchants Association of New York. December, 1907.

The Burden of Feeble-Mindedness, being the president's address before the 34th National Conference of Charities and Correction, by Amos W. Butler, Indianapolis, Ind.

Proceedings of the American Medical Editors' Association; 38th Annual Meeting, Atlantic City, N. J. 1907.

The Relations of the Doctor to the Alcoholic Problem. T. J. Crothers, M.D., Hartford, Conn. *Reprint.*

The Prevention of Venereal Disease through Education. Philip Zenner, A.M., M.D., Cincinnati. *Reprint.*

United States Geological Survey, Water Supply and Irrigation papers: 201, Surface Water Supply of New England, 1906; 202, Surface Water Supply of Hudson, Passaic, Raritan and Delaware River Drainage, 1906; 203, Surface Water Supply of Middle Atlantic States, 1906.

Report of the Surgeon-General of the Army to the Secretary of War for the fiscal year ending June 30, 1907.

Vacation Memories. 1907. Flavel B. Loffany, M.D., Kansas City, An address to the University Medical College class 1907–08.

INSTITUTIONS OF LEARNING.

Connecticut—Bull. Yale Univ., 3d Series 11, Treasurer's Report. *District of Columbia*—Georgetown Univ. Publication, 4th Series 3, Catalog. *Illinois*—Quarterly Bull., Northwestern Univ. Med. Sch., IX–3. *Indiana*—Earlham Coll. Bull., V–1. *Iowa*—Upper Iowa Univ. Bull., Dec., 1907. *Kansas*—Baker Univ. Catalog, 1907. *Kentucky*—Kentucky Univ. Bull., 8-1. *Maine*—Bull. Bates Coll., 5th Series, I. *Massachusetts*—Official Register Harvard Univ., No. 38; Bull. Mass. Institute of Technology, Dec., 1907; Tufts Coll., Annual Rept. of President, Catalog, 1907–08. *New York*—Auburn Seminary Record, Vol. 3–5, 6.; Cornell Univ. Records, Series 8; Hobart Coll. Bull., VI–1; Vassar Coll. Catalog, 1907–08. *Ohio*—Ohio Univ. Bull., IV–3, V–1; Western Reserve Univ. Bull., X–6. *Pennsylvania*—Beaver Coll. Bull., VI–3; Lafayette Coll. Bull., 2–1. *Virginia*—University of Virginia Record 1–4, 5.

HOSPITALS AND INSTITUTIONS.

Howard Hospital, Philadelphia, 53d Annual Report, St. Luke's Hospital, New York, 48th Annual Report.

REPRINTS.

Acknowledgment is made of the receipt upon topics of medicine other than Medical Sociology from Drs. Albert Rufus Baker, of Cleveland; J. Bayard Clarke, of New York; Charles Denison, of Denver; Parker Syms, of New York; Andrew Timberman, of Columbus, O.; and Thomas A. Woodruff, of Chicago.

BULLETIN
OF THE
American Academy of Medicine.
(Specializing in Medical Sociology.)

VOL. IX. ISSUED APRIL, 1908. No. 2

THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

PREPARING FOR MEDICINE.

I.

WHAT CAN THE COLLEGE AND THE FITTING-SCHOOL DO TO AID IN THE STUDY OF MEDICINE?[1]

BY W. F. MERCER, PH.D., Athens, O., Professor of Biology and Geology, Ohio University.

The subject assigned me has been discussed for some time in various gatherings of medical men, and opinions of many leading men in the literary colleges have been sought. A large amount of time and energy of the secretaries and committees of this Academy and other associations have been spent in collecting data. It seems to me that my place is to bring the salient points together in the scope of a single paper so they can be viewed as a whole. If, perchance, discussion is aroused and some definite conclusions reached to advance the cause of medicine in the near future, I shall feel that I have done my duty.

In examining the report of your committee given during the last summer, I find from the printed letters taken from the 215 replies received that a large percentage of the writers agree on the college course being the ideal standard for admission to the medical colleges. Requirements have been advanced in all lines during the past few years. Colleges to-day require a much higher entrance standing than they did even twenty-five years ago. High schools have largely taken the place of the old preparatory school and the academy, which in some respects is a detriment to our school system, for the high schools as a rule surely are not doing the good work in many ways that the academy did. Here is the place to begin reforms unless pressure enough can be brought to bear from the top to demand a better product. Much valuable time is lost by the average child in going through the grades. There is too much play in these days. Teachers think they must make everything easy for the scholars even up into and through the high school; as a result when they reach the college and the technical school and are thrown upon their own resources, in many ways they are found wanting. In the majority of cases the young people have to learn to study and to think after they reach the college.

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[1] Read by invitation, at the special conversational meeting of the American Academy of Medicine, Pittsburg, January 3, 1908.

The problem of the requirements for a medical education seems to hinge upon one point, and that point is the age that the doctor is able to begin his practice. The discussion has developed one question, *viz.*, What shall the minimum requirement be? The consideration of this question has revealed two classes of men. One answers the question by requiring a college graduate, and the other, while they feel that the first requirement would be the ideal condition, think that is impractical in all cases at present, but want to raise the requirements in some way to allow the average medical college practically all of its time for professional work.

Taking the conditions as they are at present all admit that the average young man is through his high school at eighteen years, through college at twenty-two, and an M.D. at twenty-six, if he has nothing to hinder him on the way. To my mind that is young enough. All people want men as physicians, with a little mature judgment that comes only by the increase of years. The case of the doctor is of vital importance for he is dealing with human life, and he occupies an extremely difficult position at the very best even in our times with all of our modern conveniences and scientific knowledge. The physician should not be satisfied with anything less than the very best. But suppose we insist in cutting off two years so he is in his practice at twenty-four, the place to save that time or a large part of it is in the grades and in the high school. Too many times the high schools try to give a whole college course; as a result nothing is done with thoroughness and skill, and the colleges have to do this work over again in practice, whatever the theory is as to admitting graduates of first-class high schools to the Freshman class. The high schools try to teach physics or chemistry. Physiology is usually done, in Ohio, before the high school is reached. It is a very rare thing that a student gets credit in these branches in full so he can enter the Freshman class without conditions. (Of course I am speaking more from my knowledge of our own institution.) Often it is the hardest work we have to do, to get those students that think they have had these subjects, to do the work as it should be done. To advocate the cutting down the number of subjects in the high school and the grades may not be a popular move, but I am of the opinion that *that* would be a partial solution of the problem. It needs equipment and trained teachers to teach science in these days, and if either one is wanting the schools better not dabble in the subjects. The students are worse than wasting their time, for they are getting very little out of the subject while they are getting into habits of thought that it may take a lifetime to overcome. The policy in any institution should always be not to offer a course until it could do it right or reach a fair approximation to the desired end. The signs of the times are not pointing towards cutting down the number of subjects but on the contrary to increase them, and instead of looking at things as we would like to have them we must look at them as they are.

By offering electives the colleges have tried to overcome this tendency to scattering, thus giving the student a chance to concentrate upon some line of work whereby he may come out of college with considerable momentum to start upon his professional work. If a student knows what he wants at the beginning of his course, if the college and the student work together upon this proposition, and if the college offers only those subjects that it is prepared to teach properly, the student with medicine in view can come out of an average literary college with force and training enough to do in three years what the average present-day medical college does in a four-year course.

The literary colleges have certain rules and regulations under which they operate to find out where a student belongs that is received from the high school or from another college. They must know the school and the teachers and in general the methods used in these schools, and if they are not satisfied as to the standing of the man he is placed under an examination in the subjects in which he wants credit. With all kinds of precaution some that are deficient may slip in but they can be easily weeded out during the first year, at the most during the second year if the teachers are doing their duty. The college does not bind itself to graduate a man even if it does allow him to enter. It is not a matter how many years a man is in college—it is what he does that earns his diploma. There is a certain kind of work and a certain amount of it, the doing of which carries with it the evidence that a man has earned a certain degree. This is by common consent. A man may make a success in life, as the world looks at it, in many ways, *i. e.*, he may be able to run an engine, print a paper, or hoe corn, but that does not entitle him to a college degree. A college degree stands for something definite and the world knows in general what that is. If medical colleges were to allow time credit for college graduates that had shown themselves worthy as far as they could determine, they would not be bound to graduate them in three years if they did not "make good." I notice in some of the medical literature that some of the medical colleges can not be trusted to graduate only the men that are fitted. If that is the case it would not take long to brand such a college. Power should be placed in the hands of some disinterested body of men, if it is not already there, to refuse the graduates of such an institution to practice medicine, or to annul its charter and put it out of business. The literary colleges are so well organized and administered that they have a pride, if you please, and a reputation at stake. They are not going to graduate many men that can not show up what they pretend or what their degree would suggest. A few colleges are still below the standard but they are spotted. The question now is not what have you studied, but Where did you do your work, and who was your teacher? If the man can make a clear record he is allowed to show what he can do. I shall be very much disappointed and my confidence will be much shaken in men and institutions if this same state of affairs does not or can not be made to pertain in the medical colleges of our country.

The time is, or soon will be, at hand in which the physician must be an educated man, a man that knows more than his profession. He must have a certain amount of culture. This does not arise so much from himself as from society. Society makes demands upon him that it did not twenty-five to fifty years ago. The old-time doctor was a drudge. The modern doctor must be a man with a certain amount of leisure in which to improve and keep in touch with modern thought not only in his particular line but in the general thought of society. It is often argued that that is all right for the town and the city but what about the country doctor? I fail to see the difference. If anything, it is the country doctor that needs it most, especially in these times of telephones and rural mail delivery. The rural people are coming into touch with society in general. (I use the term society in the highest sense.) It is argued further that if a college training is required for entrance the country would lose all its doctors because all these men would want to practise in the cities. There is very little force to this for all men will find their level and some men will find themselves better adapted to country practice than to city practice and there they would naturally be found in the long run.

Most medical colleges outside of those that require a college education for entrance teach or pretend to teach chemistry, physics and certain branches of general biology in the first year. In the very nature of the case they will slide over these branches in order to get at the technical medical subjects, for if they are colleges that are doing real medical work their courses are overcrowded with professional subjects, and if they should take the time to teach these preliminary subjects as they should be taught for a true foundation for the medical course, they will fall short in time for their professional subjects. Professor C. W. Jackson, of the University of Missouri, states my point well when he says "there is a wide-spread feeling among medical men that no credit toward the medical degree ought to be given for the work done by the student outside of the medical college. Many consider it necessary that the fundamental medical sciences be presented to the medical student in a manner totally different from that in which the same subjects should be taught as a part of a liberal education. This I believe a fundamental error which has done much to retard the progress of medical education in the United States. Take the subject of chemistry for example. In accordance with the narrow 'professional' view, it has been the custom (and still is in many medical colleges) to present this as a special course labeled 'medical chemistry.' The aim in such a course is to select and present to the medical student only those facts which are supposed to be capable of direct application to later medical work, no time being wasted on 'impractical' theoretical considerations. The result is that the medical student gets a hodgepodge of isolated facts, which soon drop out of his memory, leaving him with only vague and confused ideas of chemistry." In any of the subjects that lie at the foundation of medicine, time must be used for laboratory, lecture, and quiz work in order to work out the true science. After the foundation is laid the application is easily made by a student of ordinary ability with comparatively little instruction, but if he tries to make the application first he is building the house before the foundation is laid. Professor Jackson further says: "The essential point is that wherever the work may be done when properly taught it meets the requirements both as a study for liberal education and as a preparation for more advanced professional work."

It is not uncommon for students to come to us and ask for credit on their college degree for subjects worked out at some medical college. Subjects referred to above are rarely allowed, for it is well understood that medical colleges never do these subjects even if they pretend to. If they did they would not have time for their professional subjects. This paper was not written to be popular with the student. I am a firm believer in holding them to some standard. I believe the teacher is not doing his duty if he fails to see to it that they accumulate a lot of facts that they can not see any immediate use of, for the young student can not appreciate what a world of things he will need to know in after-life. There is something of a fad to let down on giving examinations. I have tried it and I know (I am judging from our students and I believe they are a fair sample of students the world over) the students get down to business and get things if they know there is an examination ahead even if the teacher does not mark entirely upon the final test.

There is a great advantage in taking the scientific work along with the other work of the college course. Then if a scientific profession is to be followed, the student is given time to think and become grounded in his life work. Then again the spirit of investigation is aroused for there are questions constantly coming up of prime importance and the student becomes determined to settle some of them if possible; as a result he becomes a student for life. It will be readily seen that I am in favor of the time element, and I am satisfied that this advantage will more than balance the possible loss of time in getting into professional work.

If we must not "touch the four-year medical course in any way," as Dr. Ravogli contends, there are but two ways out of the situation to advance the medical profession. The first is to require an A.B. or its equivalent. The second is to require a minimum of one year of college work largely of the fundamental sciences for medicine, *viz.*, physics, chemistry and biology. The first is ruled out as being impractical at present by the medical profession itself, as far as I am able to judge from their writings, however desirable it may be.

If we have to take less than graduation for entrance to a medical school, I would contend for not less than two years of good, solid college work. At least one of these years must be taken up with the fundamental medical sciences, but these sciences should not all be taken in the same year. They should be spread out over the two years. Any of the literary colleges that are fitted to do this work at all can arrange their courses to meet the demand. In fact I believe they are now so arranged in large measure. If a student with medicine in view enters he can elect those subjects and do the work even though some of them may be scheduled for Juniors or even for Seniors. It may be uphill business for him at first but if he will work he can do creditable work and pass out much better able to go on with his professional work than he could without this training. The medical colleges should drop the sciences in question from their courses and require them to be done for entrance; in this way they will get practically five years as compared with what they have now, for they could use the four years for professional work. Instead of taking five years to do the work (as some advocate) they are pushing one year back into the colleges where the work is already being done. Superintendent Brumbaugh, of Philadelphia, suggests that the retention of these subjects in the medical curriculum is to admit that they have not the material to make a four-year course without them. There certainly must be more valuable material in these days, for we know there are medical colleges that require graduate standing and I do not anticipate that their students are idle one-fourth of the time.

The idea of graduating these students at the end of the two years or allowing them to go to the medical college for two years and then come back and get their degree, to my mind would be out of the question. Let them go if they must with the understanding that they are making a sacrifice in order to save time. The colleges could issue certificates to the medical students with their record, showing that they had done certain work. At this point it should be necessary for the student to present to the medical college upon entrance, his note-books and any other evidence that might be required to show what kind of work he had done. Some will stay on and graduate. The literary colleges should insist as far as possible that their *graduates* who take up medicine should attend those medical colleges that require graduation for entrance. I have been criticized often for the stand I take on this proposition, but I do not want my graduates to dawdle away their time in a medical course with a lot of high school boys and many times they are not even high school graduates. I appreciate the fact that my students get credit in the medical colleges for the subjects they have taken. While that is some satisfaction that does not settle it from the standpoint of the principle involved. They are still required by law to stay the four years, in Ohio. I would not object to that so much if I knew they were in a medical college where their attainments would be appreciated and there would be some advantage to the students after graduation. I want my graduates to be thrown in with men of some training so that they may appreciate their education and it will amount to something to them. I know that some professors in medical colleges hold that the high school graduate will beat the college graduate every time. If that is the case these colleges must always get the poorest college graduates and the best high school graduates. There must be something wrong. We will admit that a high school man may be able to commit to memory faster than the other man. If that is the kind of a medical course they are giving, we will look elsewhere. I notice, however, that faculties of all medical colleges want the college graduate, and if a professor in these faculties has a son of his own with medicine in view he sends him to college. When asked his reason he admits the culture and the force that a college course gives him. It is perfectly evident that these men do not understand what is being done along the line of science in the literary colleges.

I believe a fair and even adjustment of the work of the unattached college and the university that has a medical department can be made, and discussions going on now will bring about that adjustment. If all the medical colleges require one year of college work for entrance the literary colleges will have to arrange for two years or at least one and one-half years in order to get any time credit in the medical colleges, providing the laws can be so adjusted. To give time credit the medical colleges would have to make an approved list, for not all of the colleges would be able to give that amount of work. Some would. A glance at our catalogue as it now stands will show that we are giving fully two years of a medical course as it is now given. Undoubtedly there are others that are giving as much or could give even more. However, if the medical colleges would require

TWO years of college work for entrance that would settle the problem in a large measure at least and the differences between the colleges and the universities would be adjusted. It would put the student that wanted the two degrees upon his mettle. He would stay in the college to graduate and take his eight years to complete his medical course in one of the colleges that require the graduate for entrance. If the medical requirements were raised as stated above, the university that has a medical department would soon require eight years to complete the two courses. We all believe in the proposition that a man appreciates most the things that cost him something in time and money. There will always be medical colleges with lower requirements than others and the man that can not enter the best for one reason or another and still wants to practise medicine can attend these; and there will always be men that will take the long course no matter what it costs. The number belonging to this last class is increasing every year.

Dr. Waite, in his paper read before the Association of Ohio Medical Teachers, assumes, after considerable experience with both classes of students, graduates and non-graduates, that the graduate with a strictly literary training will do in three and one-half years more and better work than the non-graduate can do in four years. He has collected some figures that have an important bearing upon this subject, to which I will refer later. There is scarcely a graduate of any college of note to-day that has had no training in the sciences and in many cases it has been of the very best. Now if a purely literary graduate is entitled to one-half year's credit, what about the man that has done the scientific work with the laboratory practice just as well if not better than that done in the medical colleges? I think the medical men are making a mistake in considering the graduate of the literary colleges to-day the same product as far as the kind of work done is concerned as it was twenty-five to fifty years ago. From what they say and write that is what one would infer. They do not realize that the literary colleges are doing more and better work in these preliminary sciences than the average medical college can possibly do. It has often been said that we are living in a scientific age. It is the demand of the people that has driven the colleges to offer these electives and provide for the teaching of the sciences. The student will look for the college that will give him this advantage, for to be an educated man in these days one must know some science, and if a man is to follow some scientific profession he is sure to choose the college that will give him the greatest advantage along these lines. It is the "spirit of the age." The medical men should inform themselves upon these topics, and that is why, I take it, that we are invited in to discuss these matters from the standpoint of the literary college. I would be the last man to ask credit for work that was not done, but it does seem unfair for the medical men to ignore entirely the work done when, if they could see the work, they would admit it to be well done.

Dr. Waite gets the average number of hours done the first year in the Ohio medical colleges to be 911. To show how the literary colleges are matching that as far as the number of hours are concerned (figuring the hours as the medical colleges figure) I have made a possible course from our own catalogue that is being carried out by several students now. This course presupposes a thorough high school course.

Fall Term.

Inorganic chemistry	105	hours.
Physics	105	"
Histology	120	"
Osteology (human)	105	"
Total	435	hours.

Winter Term.

Mammalian anatomy	72	hours.
Zoology	36	"
Inorganic chemistry	84	"
Physiology (chemical)	105	"
Histology	96	"
Total	393	hours.

Spring Term.

Qualitative analysis	108 hours.
Physiology (experimental)	72 "
Zoology	72 "
Embryology	96 "
Neurology	72 "
Total	420 hours.

This makes a total for the year of 1268 hours. This number of hours set over against the average number (911) given the first year in the medical colleges of Ohio makes a fair showing when the number of hours are considered. Dr. Waite also figures that 618 hours should be the minimum, and he sets the subjects to be required for graduates asking for time credit of one year. Yet with our 1268 hours, according to law we are not allowed credit. I will give another set of subjects that our graduates with medicine in view who might expect time credit would be required to take in addition to those given above. These are also taken from our catalogue and are in actual progress.

Comparative vertebrate anatomy	90 hours.
Advanced physics	134 "
Bacteriology	84 "
Human anatomy including dissection of at least one-half specimen	228 "
Organic chemistry	45 "
Quantitative analysis	256 "
Total	797 hours.

Possible hours in addition to the above.

Medical Latin	81 hours.
Physical chemistry	26 "
Electro-chemistry	36 "
Total	143 hours.

This makes a total of 940 hours and when added to the 1268 hours in the first list it makes a grand total of 2208 hours of scientific work. (We consider all the work well done. Our product will have to speak for itself.) Add to this all the train ing of the remainder of the course in language, literature and mathematics, yet according to law we have no credit in time in the medical colleges.

It will now be seen why I asked for a minimum of two years for entrance, and a year's time credit in the average medical colleges for our graduates. The one-year schedule is very heavy on account of the large amount of laboratory work, and if this could be spread over the two years with some of the additional subjects and a little language and literature the student would be much better fitted to go on in his professional work. The best of all is to have the work spread over the four years which would be the case with the graduate. His mind is being trained along his life work for four years before taking up his professional studies. We are doubtless better fitted at Athens than most colleges are for human dissection. On account of our location we have no trouble in getting material. Of course college sentiment might have something to do with it. It would probably be impossible for some colleges to do human dissection but they could do the osteology and other allied subjects so the student would have something done in the second medical year which would give him a chance to do all of the human anatomy in the medical college and still reach the third year full fledged.

The graduate that attends the graduate medical school is often criticized on the ground that he is to become a theorist, that he ought to go to the lower grade medical school where they do only the practical things. These arguments are used by men as agents for the smaller medical schools among prospective medical students. They claim that it is all wasted time to graduate from college and then go to a graduate medical school. It is easy to see through this argument for the great majority of the graduates that study medicine go to those graduate schools already and the number is sure to increase in the near future, thus the smaller schools lose them, when if they can get them to give up their college training they are sure to get them in some of the lower grades of schools. In this day and generation this argument catches many young men, especially those that are limited in means or getting along in years, or the ones that see the dollar at so close range that they see nothing else. This is true not only in the medical profession but also in the so-called practical arts. Too many times the young people rush and tear to learn how to do a few things without a knowledge of the principles involved so they can get out and run an engine, or carry a chain, or cut off a leg without knowing whether it is the best thing to do or not. This may not be so bad in the mechanic arts but with the physician it is different. No one can spare an arm, or a leg, or an eye without it is absolutely necessary. A man to be a physician should know more than merely how to do things, he must have a thoroughly trained and mature judgment and this takes time. I believe we should insist that the medical profession should be advanced to a plane higher than almost any other profession. It is sure to come.

We are giving all of this work in the literary colleges not for the medical students alone. It is all given for its value in all lines of life. Special teachers in biology and in the other sciences need this work. No one needs it more than the teachers of physiology or chemistry, or of physics in the high schools of the land. Engineers need this work, especially in chemistry and physics. Many practical chemists and bacteriologists are turned out of our literary colleges in these days. Now, if some of this work is exactly what the medical student gets in his first year (or in any year for that matter), why should he be obliged to do it over again or spend the extra time if the work is equally as well done? It would be perfectly absurd for a school of civil engineering or mechanical engineering to teach the fundamental mathematics, as arithmetic and algebra or even plane and solid geometry. They are just as well taught in the colleges and fitting schools. The technical schools can not afford to bother with these subjects. How much more so should it be in the medical schools, where the field is so wide and so comparatively little worked. We need the very best men and the most thoroughly trained men in this profession, not for the money that is in it but for the good of humanity. No man lives a successful life who does not in some way help on society to a higher level.

There is no ground for fear that the literary colleges will lose the men that might stay on and graduate. Some may go at the end of the first year or at the end of the second year, but if one year at least is required the colleges will get a hold on them and many more will stay and graduate than would be in college without the college requirement. The larger part of the graduates will go to the graduate medical schools where they belong unless the other medical schools give them time credit for work that is actually done. In the near future the universities with a medical department will make that a graduate department or make the medical course five years long. In that event the apparent unfairness that exists to the detriment of the unattached college will disappear.

Questions like this are under discussion all over the land which to my mind indicates a better state of affairs in the near future. The medical colleges will take higher ground and the literary colleges will do more and better scientific work to meet the demands of the medical colleges; if enough work and of the right kind is done it will receive credit in the medical colleges. I believe this will be settled upon a rational basis and credit will be given where credit is due, not because a certain number of years have been spent in some particular place but upon the kind and the amount of work done.

ATHENS, OHIO, Dec. 23, 1907.

II.

WHAT ARE THE ESSENTIAL SUBJECTS OF GENERAL INFORMATION TO BE POSSESSED BY THE PHYSICIAN?[1]

By the REV. J. D. MOFFAT, D.D., LL.D., Washington, Pa., President Washington and Jefferson College.

It may be well for me to state my conclusion at the beginning of my paper, so that no one may be in doubt as to what I am driving at. It is that, as far as possible, the traditional college course of study should be pursued before entering upon a medical education. This will not give the physician all the general information he needs, but it will furnish him information and general training that he will find helpful to him while he studies his profession, and will put him in the way of acquiring useful information during his subsequent years of practice.

I do not claim that no one who lacks a college education should be permitted to study medicine. There are high school graduates whom I might advise to go at once to a medical college and to fit themselves as soon as possible for their chosen profession. I am not prepared to advise all medical colleges to follow at once the example of Johns Hopkins and Harvard and require a college diploma for admission. This is a growing country with a constantly increasing population and with new settlements springing up, and every community of people ought to have a physician, as competent as can be secured. A sudden requirement that four years must be spent in college before admission to the medical school might too greatly limit the supply of physicians, and too completely empty many a medical school that is now a profitable enterprise. I go a step further, and concede that there are some high school graduates who, going at once into medical schools, will prove to be more successful physicians than some college graduates will ever become with twice the amount of training. Persons can always be found who need advantages that other persons can do without.

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[1] Read by invitation at the special conversational meeting of the American Academy of Medicine, Pittsburg, January 3, 1908.

But making allowance for these and similar exceptional cases, it is my belief that it is no waste of time, no waste of effort, to complete a college course before entering a medical school; but that, on the contrary, the college graduate who has made use of his opportunity will find himself better equipped, in knowledge, studious habits and control of his mental apparatus, to get the most out of his medical school opportunities than if he tries to save those four years of time for his practice.

Against this position two objections are urged from different quarters: one questioning the usefulness of the college course; and the other complaining of the time it subtracts from the physician's years of practice. Let us give some attention to these criticisms.

(1) The first objection springs from a popular demand that the whole process of education should be practical: that is, that young people should not be required to acquire knowledge of which they are to make no use in their life-work. Studies that are chiefly disciplinary and cultural are decried. In the application of this general principle it is easy to declaim against several studies in a college curriculum as having no immediate bearing on either the study or the practice of medicine. While this demand for the practical is somewhat general, it is more than somewhat vague. It is plausible and catches the public ear; but so far as it creates the impression that the advocates of a liberal education do not care for the practical and are seeking to educate young people without regard to the needs and demands of the world upon them, it is wholly misleading. We claim to be more practical than they are who would cut down the form of education that has given to the world so large a proportion of its leaders. We are willing to define education as a preparation for life, and decline to narrow it to preparation for a life-work. This latter is only one subordinate form of education, it is technical education; it has a place in any broad view of the purpose of education; but it is not to be regarded as the sole or even the chief end of education. Men are to live in this world, they are not merely to earn a living in it; and they should first be trained to live and then, when they have chosen some occupa-

tion or profession, they should be specially trained for it. But both the general and the special education are or may be equally practical—if adapted to the end in view. I think every physician wants to be a good deal more than just a physician. He is a citizen of the world, a man among men, knowing more than the absolutely necessary knowledge of his profession, able, in any company, to talk something other than "shop talk." One of the misfortunes of the modern organization of industry is the fact that individual workmen are compelled to work continuously at one trivial detail in some great mechanism, and who does not pity the human being who has nothing to do hour after hour and day after day but to point or polish pins? If such a specialist in mechanics is nothing but a mechanic, without knowledge or interest outside of his job, how can he ward off insanity? What a relief it is from the monotony of any occupation to be able to turn aside from it and to enter into sympathy with men of entirely different occupations or to take intelligent part in any of the great movements in the world about us. The fact that in every community professional men are looked upon as citizens of the first rank, should create an imperative demand that they all should be educated for this high sphere of influence quite as carefully as they are trained for their special work.

If we turn from the general purpose of education and make inquiry concerning the branches of general knowledge that may be helpful to the physician, we shall still confront vagueness. It is so easy to ask, "How will this or that study help the physician in his practice?" We may not be able to answer such a question, satisfactorily to the inquirer, or even to ourselves. The study is designed to help the man, and it may never render evident service in his work. And yet, we can not be sure that some very remote item of knowledge may not in a critical moment save a life. I fancy that a physician sometimes gropes about in perplexing darkness for a suggestion, and some long ago acquisition, wholly unrelated to medicine, may serve as a link in the chain of thought. I once asked a distinguished lawyer what forms of knowledge would help to educate for the practice of law, and he replied: "There is nothing that a man can know that a lawyer may not have occasion to make use of," and he supported his remark by telling me how he had gained one noted case through his knowledge of chemistry that he had studied in college, and how he had won another by the use of a chance bit of information he had gained from a lumberman. It is not very safe to declare that this or that study will never help a physician.

On the other hand, if we exclude from his education those branches that we think will not help him in his practice must we not greatly reduce the common school curriculum? If the physician has a case of appendicitis before him, I cannot see that geography will be of any service to him. He may not know the location of London, but he only needs to know the location of the appendix. Grammar is not indispensable. If he says to a patient, "there ain't nothin' the matter with you now," it will be just as comforting as if he had expressed himself grammatically. The history of Rome is irrelevant knowledge when he is trying to find out the history of his patient. He needs very slight knowledge of mathematics; he can keep account of his visits by notches on a stick and employ a secretary to make out his bills. Of course, this is not much of an argument, but it may serve to illustrate the fact that the demand that the education preliminary to the study of a profession shall embrace only those subjects that bear upon professional study or professional practice, and give knowledge that is sure to be useful, is not itself a very practical demand. It is too difficult to anticipate the needs of future years and the demands of strange circumstances.

I think I must add another comment on this demand. It implies that the knowledge acquired in school and college will somehow be at hand to be used in the work of life, but the knowledge we use effectively in life is fresh knowledge, not merely remembered knowledge. Knowledge has no existence apart from a working mind.

What we call remembered knowledge is the mind working again as it worked before. The idea that a stock of knowledge can be stored up for future use is a convenient form of speech but may be misleading. The educational process consists in our inducing the mind of the student to work in a variety of ways, so that, when needed, he may command the working of the mind in the particular way that will give him knowledge old or new, but in any case, fresh, just from the mint, or newly ground in the mill.

(2) The other objection, urged against spending four years in a college before entering the medical school, has come from some of our universities. It does not deny the value of such studies as are taught in colleges, but urges that the total time now consumed by college and medical school should be reduced. It has been necessary to increase the length of the medical course to four years and the demand is made that the college course be shortened, or avoided. Whether one, two, three or four years are to be cut off from the time devoted to general preparation is left undetermined. The omission of the whole college course has been encouraged by the medical colleges that admit the graduates of high schools. The omission of one year from the college course has been encouraged by the universities that permit their own students, upon the completion of their Junior year, to enter at once the medical department and give them their college degree at the end of the first year of their medical study. But the opinion that a larger part of a college education should be taken before medical study is entered upon seems to be gaining ground. At least two medical schools of high standing require a college degree for admission, and several other medical schools have announced that at a certain date the completion of the studies of the Freshman year in a college will be required for admission; and at a later date, the completion of the Sophomore year. This tendency seems to warrant the inference that there is a growing conviction that those who intend to study medicine should have more general education than has been deemed needful in recent years.

I confess that I have been disposed to discount this appeal for a longer period for practice, as it has come from professors rather than from the men themselves. The college graduates, who have completed a medical course of four years at twenty-six years of age, do not complain but are the men who try for hospital positions, and if able financially want a post-graduate course before settling down to practice. The medical professors do not complain that college graduates twenty-two years old are too mature, or have too much general knowledge, I have not known them to sigh for more young high school graduates. The people who are sick hesitate to call in the young doctor only twenty-five or twenty-six years old. There are doubtless many young men who can not afford time or money to take the fullest preparation, but the way will not soon be wholly closed against their entering on medical study with a minimum preparation for it.

There seems to me no good reason why the ideal medical education should be kept low enough to suit the necessities of even the majority. To say it is well, whenever possible, to take eight years to reach the medical profession, still leaves it open to the many to employ less than eight years if they so desire. But surely, however slowly, the trend ought to be upward. There is so much at stake that our physicians ought to be the best educated class of all our learned professions. In advocating generally the pursuit of a college course as preparatory to the study of medicine, I have in mind that that course will offer chemistry, physics, botany and zoology, with abundant laboratory practice, but taught without special reference to medicine, but more broadly, as perhaps furnishing a better basis for special applications to the human body. The course should also include Latin and one or two modern languages, some higher mathematics, practice in English composition, some knowledge of English literature, history, a good course in psychology, anthropology and sociology, and some knowledge of political science and ethics. Such a course will give an introduction to all the principal divisions of human knowledge and open the way for such further study as individual taste may induce, and its faithful pursuit for four years will surely yield the most valuable products of a college training; the studious habit and ability to think to some purpose.

III.

HOW CAN THE SCHOOL LIFE OF THE INTENDING PHYSICIAN BE ARRANGED TO PRODUCE THE DESIRED TRAINING WITH THE MOST ECONOMIC EXPENDITURE OF TIME?[1]

By Albert Vander Veer, M.D., Albany, N. Y., Regent of the University of the State of New York.

In discussing the subject assigned me from the standpoint of an institution that has a long and honorable history, as time and history are measured in the United States, it is fitting that I introduce the question by historical references. At the same time, our attitude to the problem will appear from the statement of what New York has done, is doing, and may do in the interests of medical practice.

In a résumé of the successive steps in legislation governing medical practice in the State of New York, the First Assistant Commissioner of Education, Dr. Howard J. Rogers, sketches the statutory enactments whereby the state was given full control of all matters relating to actual practice of medicine, irrespective of medical schools or societies. He shows that after an agitation of one hundred and ten years the various forms of control, emanating mostly from some part of the profession, were swept aside for the full establishment of the principle that it is the duty of the state to assume complete control of the safeguarding of the health of the public. This will appear in the annual report of the Education Department for 1908, title 3, *Higher Education*.

From this résumé it appears that three forces contended for nearly one hundred years for the control of the licensing of practitioners of medicine; first the medical profession through its county and state societies, second the medical colleges, third the Board of Regents of the University of the State of New York. Let us review the work of two of these forces and refer those interested in the other to the résumé.

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[1] Read by invitation at the special conversational meeting of the American Academy of Medicine, Pittsburg, January 3, 1908.

New York and Pennsylvania are rivals for the honor of establishing the first schools in medicine. In 1770 the degree of doctor of medicine was conferred in New York State, antedating by one year the same degree conferred in Pennsylvania. From 1770 to 1806 the degree of the medical school was a license to practise. This right was suspended by the law of 1806, and for three years the medical societies had exclusive control. In 1809, however, the law made the degree granted by the board of regents a license to practise. This dual control of the practice of medicine continued for many years. For the greater part of the nineteenth century there were two sources of license to practise medicine: (1) a diploma of the board of regents; (2) a license of the state and county medical society. As medical schools were incorporated subject to the visitation of the regents, their degrees possessed the same rights.

Reciprocity took form through the power of indorsing the degrees from medical schools outside the state. The triple control of board, school and regents continued until 1880, when the power of licensing was taken away from the state and county societies and vested in the board of regents. Ten years later the dual control by the regents and the colleges ceased, and the degrees of the medical colleges no longer gave the holders right *per se* to practise medicine. This was done with the willing consent of the colleges and the unanimous support of all schools of medicine.

The Influence of the University of the State of New York.—With this introduction to show what New York has done, let us see what the Empire State is doing. To avoid misapprehension regarding the tense of our verb *is doing*, let us recall some facts of the university's existence.

In 1784 the original act creating the university was passed by the Legislature at its very first session after the close of the Revolutionary War. The regents were empowered from time to time to establish such additional colleges as they might think proper, but their chief business during this period was the government of Columbia College. In April, 1787, a revision of this law passed the Legislature which in all its general provisions, after one hundred and thirty years, still remains in force. It authorized the Regents to visit and inspect all the colleges, academies and schools of the state. It gave them power to confer degrees. It made them responsible for the charters of educational institutions. Let illustrations of the work of the Regents in these three fields show what we are doing.

Chartering.—The laws of the State have dealt with medical colleges on a different basis from colleges of arts and science. Colleges vested with the rights and powers of a university can confer medical degrees. The establishment of separate medical schools began with the incorporation of the College of Physicians and Surgeons in 1807. The throes through which the combination with Columbia was affected were repeated again and again in other portions of the state. This instance alone may be referred to because of its bearing on subsequent problems. During the process of the consolidation, certain ex-professors, not relishing private life, immediately organized an opposition school. Unsuccessful in their effort to connect themselves with any of the colleges of the state, they attached themselves to Rutgers College, New Jersey. The legislature resented this interference with its sovereign powers by declaring all degrees conferred by any college out of the state on students studying at an institution within the state, null and void, as licenses to practise medicine. They then attempted to connect themselves with one of the colleges of arts in the state. An institution recently chartered in the western part of the state consented, for a pecuniary consideration, to confer the degree of M.D. on such as Rutgers medical faculty should recommend. This connection was of short duration, and even while it lasted was illegal, for the revised law of 1827 declared that no diploma or degree conferred by any college in the State should be a license to practise medicine, and that no college should have or institute a medical faculty to teach the science of medicine in any other place than where the charter locates the college.

In 1812, the College of Physicians and Surgeons of the Western District was located at Fairfield in Herkimer county, a small country village. The institution grew until in 1834 two hundred and seventeen students were in attendance, a larger class than ever before attended a country medical school. It was now discovered, apparently for the first time, that a whole million of people west of Utica were without a medical school for their children. Geneva College formed a medical faculty, but it was necessary to obtain the sanction of the legislature to the measure, otherwise a degree would not be a license to practise. Application was first made to the board of regents to confer the degree of M.D. upon such as the medical faculty should recommend; but, that no time might be lost in a case of such urgency, an application was made to the legislature for a law declaring the degree of M.D. a license to practise medicine. Both applications were strenuously opposed. It was contended that the number of students in the state could not support more than two schools, one in the city and one in the country; that all could be as well taught in these two as in three or four, and that it would promote neither the interests of the profession nor of the public to multiply schools, and that it would lower rather than elevate the standard of medical education. The legislature enacted the desired law, and the regents' committee reported that the college possessed the power to confer medical degrees.

The president of the State Medical Society in his address, February 1837, concludes:

> Whether this school is destined to do all the good its friends expect from it, or all the evil apprehended by those opposed to it, time alone can determine......There is not support enough for two respectable schools in the country, and it is more than probable that at no distant period one or both of the existing ones must be discontinued.

It is interesting to note that both disappeared.

We cannot refrain from quoting still further from this address:

> By an amendment to the act regulating the practice of physic and surgery, passed last session, no person admitted to practise in any other state, or country, is authorized to practise in this state, until he shall have received a license from the censors of the state medical society. This amendment was found necessary on account of the difficulty of determining the genuineness of the credentials presented by foreigners. In several instances, the papers were ascertained to be forged, and in some others there were well founded suspicions that the bearers of the diplomas were not the persons to

whom they originally belonged....In other instances, persons going out of this state, or coming in from other states, were known to have received diplomas without complying with the requirements of the laws.

Here we find the source of the statutory requirement that New York medical schools and New York medical students shall not be discriminated against by the registration of medical schools out of the state. And the provisions of the first state statute in the light of such experience inevitably resulted in the statutory requirement that "applicants examined and licensed by other state examining boards registered by the regents as maintaining standards not lower than those provided by the New York statute, may receive from them the indorsement of their licenses or diplomas, conferring all rights and privileges of the regents' license issued after examination."

In closing this account of the regents' administration of the power of incorporation it may not be improper to say that the legislature of 1907 set the seal of its indorsement of the wisdom of its act one hundred and twenty years earlier, by a general statute placing the incorporation of all educational institutions wholly in the hands of the regents.

Professional Requirements.—Let us now consider what we are doing in regard to the professional requirements for admission to practise medicine. The original statute of March, 1797, which regulated medical practice in the entire state, required a four years' apprenticeship, with the provision that the graduate of a college or university should serve three years. There is no evidence that medical degrees were ever conferred by the state medical societies. The licensee of a medical society, entering upon practice through examinations, naturally would not possess a medical degree. In 1826 the medical society applied to the regents for the privilege of nominating candidates for the honorary degree of doctor of medicine. In 1827 the regents began conferring such honorary degrees and continued until 1834. They then expressed doubts as to their power of conferring such degrees and none were given till 1840. In that year an act was passed by the legislature whereby the regents could, in their discretion, confer the honorary degree upon such persons, not to exceed four in any one year, as were recommended to them for that purpose by the medical society, but such honorary degrees were not, in any case, to be a license to practise. The regents continued to confer these degrees on the nominees of the state medical society until 1876; on the nominees of the homeopathic state medical society from its inception in 1862 to 1892.

In 1872 an act was passed empowering the regents to appoint one or more boards of examiners in medicine, to examine candidates for the degree of doctor of medicine, which degree should be a license to practise physics and surgery, and under this provision nine degrees were conferred between 1880 and 1884.

On the reorganization of the medical school by the regents in 1794, five professorships were instituted, *viz.*: chemistry, institutes of medicine, anatomy and surgery, practice of medicine, midwifery. On the consolidation of the rival institutions in 1813, there were eight professorships provided, by the separation of one, anatomy and surgery, and the addition of two, materia medica and botany.

In 1818 a law provided that attendance at a medical school could be accepted in lieu of instruction under a preceptor, and in 1819 an amendment provided for resident work in the expression "have attended one complete course of lectures delivered by each of the professors of such college."

A list of the medical schools of the United States showing the requisites for graduation and for license published in 1832 shows that two full courses of lectures were offered by the stronger institutions, which required at least one year of resident work therein.

The New York statute of 1853 relative to the incorporation of colleges and academies by the regents specifically provided that no person should receive a diploma conferring a degree of doctor of medicine from a medical school thus incorporated unless he ...."shall have received a good English education and shall have pursued the study of medicine and science connected therewith for at least three years, and shall also....have attended two complete courses of lectures delivered in some incorporated medical college."

The law of 1872 appointing examining boards, required that ....such examinations shall be in anatomy, physiology, materia medica, pathology, histology, clinical medicine, chemistry, surgery, midwifery and therapeutics."

In 1887, protection was accorded the medical degree, by making it a misdemeanor for any person to assume the title of doctor of medicine, or append the letters M.D. to his name, without having received a degree from some school, college or board empowered by law to confer such degree or title.

The act of 1890 required that all applicants for admission to practise after September 1, 1891, shall have studied medicine three years, including three courses of lectures in different years. In 1896, an amendment required that the applicants matriculating subsequent to January 1, 1898, and graduating subsequent to January 1, 1902, study medicine not less than four full school years of at least nine months, including four satisfactory courses of at least six months each, in four different calendar years. In 1902, an amendment to the law permitted the regents in their discretion to accept as an equivalent of the first year of the four years' study of medicine, evidence of graduation from a registered college course, provided that such college course should have included not less than the minimum requirements prescribed by the regents for such admission to advanced standing.

The statute of 1907 requires the study of medicine for not less than four school years, including four satisfactory courses of at least seven months in four different calendar years; requires a medical degree and an examination in anatomy, physiology, hygiene, sanitation and chemistry, and final examinations in surgery, obstetrics, gynecology, pathology, including bacteriology, and diagnosis.

General Preliminary Education.—Let us now turn to the third illustration of the work of the regents. We have seen by the law of 1853 that the medical colleges incorporated thereunder could confer a degree on no person unless among other qualifications he had a good English education. The source of this requirement is not hard to find. In the president's address quoted from above we read:

> In my opinion the greatest defect is in the preliminary education of students of medicine. Much the greater number of them are destitute of classical attainments and even their English education is often very imperfect. Not a few of the graduates in medicine are unable to translate a line of their diploma....A certain degree of knowledge of the Latin language at least is necessary to enable the medical student to profit to the utmost advantage by the books he reads and the lectures he hears. Most of the terms in anatomy, materia medica, botany and chemistry are derived from that language. Those, therefore, who have to commit to memory those numberless names as arbitrary terms have a most irksome labor to perform, which would be avoided had they understood the language......Candidates for the degree of doctor of medicine are only required to be able to write an English dissertation on some medical subject, with grammatical accuracy, and freedom from gross violations of orthography, in addition to the requisite knowledge of the several branches of medicine......
>
> There exists on our eastern border, a cordon of medical schools, some of which are so accommodating as to give two courses of lectures in a year, to which the students of this state could resort, even in greater number than they do now, if the requirements for degrees were much higher with us, than in other states. By the printed regulations of some of the medical schools of the adjoining states, it would seem that the requisites for degrees are higher than in this state, for a competent knowledge of Latin and natural philosophy is required; but notwithstanding, it is found in practice that the want of such acquirements is no insuperable objection to the success of a candidate for the degree.

One seems to be reading from the current discussions of 1907 rather than from a report of the progress of medicine in 1837.

The law of 1818 put a premium on college studies. It was questioned by some after the passage of this act whether other cases might not arise in which students could justly claim a deduction of two years study, having for example attended classical studies for one year after the age of sixteen, and also attended a full course of medical lectures.

We here find the source of legislation enacted seventy years later. The law of 1872, which established boards of examiners, required of applicants for admission to examination, evidence "of a competent knowledge of all the branches of learning taught in the common schools of this state and *of the Latin language.*" In June, 1889, an act providing for the preliminary education of medical students required of all that had not received a baccalaureate degree, an examination under the regents in arithmetic, grammar, geography, orthography, American history, English composition, and the elements of natural philosophy. August 1896, the requirements advanced to four years of high school preparation or an equivalent.

April, 1906, the regents adopted the rule "that a medical student certificate may be earned in department examinations on the following subjects which will be accepted as an equivalent of the sixty count general certificate required by statute and earned on examination or certification, *viz.*, three years English, 10 counts; two years mathematics (algebra and geometry) 10 counts; two years Latin (grammar, composition and Caesar) 10 counts; two years science (physics and chemistry) 10 counts; one year history (American history and civics) 5 counts; total 45 counts.

The Combined Baccalaureate and Medical Degree.—The idea of connecting medical with academic studies was entertained from a very early period. The following memorandum among the regents' papers was received March, 1802, a year before the Fairfield Academy was incorporated by the regents. It is indorsed "View of academical studies in Fairfield Academy" and has further interest from its showing the plan of education in a four years' course that was then thought to meet the requirements of that day. On the completion of the common school subjects, a course of study in the academy comprised four years of work, during the third year of which philosophy, botany, chemistry, materia media and anatomy were to be given.

Attention has been called to the law of 1818, which seemed to permit of an allowance of two years for the pursuit of classical and medical studies, and to the amendment of the law of 1902 which permitted the regents in their discretion to accept as an equivalent of the first year of medicine, evidence of graduation from a registered college.

December, 1904, the regents adopted the following resolutions as the working basis for the introduction fo the combined baccalaureate and medical degree course into the colleges and medical schools of the state: (1) That the minimum requirements for admission to advanced standing in a medical school of the state of New York be (*a*) the completion of the first four years of a duly approved seven-year combined baccalaureate and medical course, and (*b*) the formal registration of the college conferring the arts degree and of the school conferring the medical degree.

(2) That the requirements necessary for the registration of the college course as an equivalent to the first year of a medical school be referred to Regent Vander Veer and the First Assistant Commissioner of Education to be determined along the lines discussed before the convocations of 1902 and 1904, and for conference with the college and medical councils if deemed necessary. That a report be made to the board when the committee reached conclusions.

In 1907, the First Assistant Commisioner says, concerning the adoption of the combined baccalaureate and medical course:

> Two phases of the question are easy of adjustment: (1) where the university maintains a medical department, the curriculum can easily be adjusted so that the student may cover both courses in seven years, but this is done by the elimination of subjects of the arts curriculum and by pursuing the full four years' course in medicine. In other words, the first year of medicine is accepted by the arts department as an equivalent to the fourth year of its requirements.
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> (2) The second phase of the question is also easy of adjustment. It is an arrangement whereby the college which does not maintain a medical department may, by an arrangement with a medical school, permit its students to leave at the end of the Junior year and to enter a medical school. The first year of medical work is accepted as an equivalent of the Senior year in college and the student is allowed to return and graduate with his class.
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> (3) The third phase of the subject is one difficult of adjustment. It involves the establishment of a medical elective in the arts college to be pursued during the Junior and Senior years, and the subjects which shall be accepted by medical schools as an equivalent of the first year's work. The student may then upon receiving his baccalaureate degree enter upon the second year work of the medical college.

The committee to prepare a course of study and syllabus for the medical elective which is to be introduced in the arts colleges, and accepted by the medical schools as an equivalent of their first year's work, has been unable to construct a course that will fully meet all the points raised by both parties. Dr. Egbert LeFevre, of the University and Bellevue Hospital Medical College, the chairman of the committee, reported at a conference of college presidents that a basis of agreement had been found, whereby it would seem to be easily within the facilities of the arts college to introduce an elective. It was conceded by the medical men that all the subjects set forth in the elective could be taught from a scientific point of view only, and need not necessarily be taught from a medical point of view. As a result of its labors, the committee had found it possible for the student who had begun this elective to enter on the second year of the medical course with a technical condition of two hundred hours' study in anatomy, but an allowance is made such a student in other scientific studies, giving him ample time to work off this condition and begin the third year of the medical course in full standing. The committee is coöperating with a committee of the Association of American Medical Colleges in the preparation of the syllabus.

At the October, 1907, regents' meeting, the following resolutions were voted by the regents:

COMBINED BACCALAUREATE AND MEDICAL DEGREES IN SEVEN YEARS.

A college or university may be registered as maintaining a satisfactory standing for one full year of medicine when the course of instruction includes the 750 hours (450 recitation, 300 laboratory) in anatomy, physiology, chemistry, physics, histology, embryology and bacteriology, outlined in the syllabus prepared by the department. For the purposes of registration, instruction in the subjects of the first year of medicine or their substantial equivalents as prescribed below must be given in the baccalaureate courses of the college or university applying for registration. The combined course for the baccalaureate and medical degrees must not be less than seven years.

Subjects.	Recitations.	Laboratory.	Total.[3]	
Anatomy	40	60	100	70
Bacteriology	30	20	50	40
Chemistry[1]	120	160	280	200
General	90	120	210	150
Physiologic	30	40	70	50
Embryology	20	40	60	40
Histology	60	80	140	100
Materia medica[2]	30	40	70	50
Physics[1]	90	120	210	150
Physiology	90	120	210	150
Total	450	600	1050	750

[1] May be completed in a secondary school registered on inspection for this specific purpose and on the basis that three higher hours are the equivalent of five counts.

[2] May be substituted for physiologic chemistry.

[3] The second column of totals is found by adding half the laboratory hours to the recitation hours, on the assumption that two laboratory hours are the equivalent of one recitation hour.

In closing this survey of the state's efforts to safeguard the public health, let me call your attention to the conservative results attained. From the United States census it appears that in the state of New York there was in 1860 one physician to 576 people; in 1870 one to 617; in 1880 one to 585; in 1890 one to 598; and in 1900 one to 575. That is, in forty years the population increased nearly two and one-half times, but the ratio of population to physicians was practically the same in 1900 (one to 575) as it was forty years earlier (one to 576).

An Answer to the Question under Discussion.—While it is unsafe in the light of the above historical record to prophesy what may be done in New York State or how soon it will be accomplished, it can safely be asserted that the second decade of the twentieth century will see an adjustment of the school curriculum so that both the minimum statutory requirement and the maximum scholastic shall retain all that has thus far been accomplished, plan for future conditions, and save two years of time to the student desiring to meet the maximum requirement.

The Minimum Statutory.—This requirement is four full years of secondary education for admission to medical schools, and four full years of professional training as a pre-requisite for entrance to the medical licensing examination.

The Maximum Scholastic.—This requirement can be made four years of secondary education, including a classical training; four years of higher education, including one year of professional work; four years of professional education, including one year of clinical instruction.

A Suggested Adjustment.—As the maximum scholastic requires eight years of elementary instruction after the age of six, four years in a secondary school, four years of higher education, and four years of professional training, the student pursuing this course without setback or advancement is twenty-six years of age on its completion. If two years of time can be saved, and the necessity of choosing a profession can be deferred to the latest possible moment, then the doctorate degree becomes in fact what its name implies, and the maximum scholastic requirement completed at the age of twenty-four becomes an ideal.

Let us see how this can be accomplished. A four years' secondary course, including the specific subjects, mathematics, Latin, history, science and English, can be earned on examination by an intelligent student in three years' time, if he makes his choice at the opportune moment. By properly outlining the four years of higher instruction, the first medical year will be included and a second year saved. The selected subjects of the secondary and higher courses covering two years of the present and related subjects of the medical curriculum permit a year s clinical instruction in the last year of the medical course, and the four years' professional course will then contain a year of clinical instruction.

DISCUSSION.

Rev. A. B. Church, D.D., President Buchtel College, Akron, O.:

I am very glad to hear the tribute paid here to a good liberal education in the acknowledgment of its value. In some of the discussion between medical men and the liberal arts college men this has not always been recognized. I was in a discussion not long ago where several medical professors discredited a college education, claiming that the college graduate coming into the medical school was disqualified by his college education to take up medical studies, and asserting that the high school student was much better prepared and took up the work with greater facility than the college graduate. It seems strange to me if that is true when every other branch of business, so to speak, recognizes the value of college education with its four years of higher education and discipline. I have the testimony of a large percentage of the business men in urging that a four years' college course is of inestimable value and almost a necessity for a young man to succeed in business.

I think we recognize that the college training of to-day is somewhat different from that of 50 years ago. Then it was the classical training, fitting men for the learned professions and rather unfitting them for the practical business of life. As some one has said, we give diplomas now on what young people can do, and we used to give diplomas upon what they could memorize. The trend of education to-day is to put men to work with their hands in the development of their brain, preparing them to go out into the world with hands trained as well as brains.

There is not much difference of opinion as to the characteristics and attainments of the ideal physician. We recognize that which constitutes the ideal physician or the general practitioner—and I think we are gauging our whole discussion upon that level rather than on that of the specialist. Recognizing in the ideal physician the value of a college education and the necessity of the medical training, the great question before us is how shall we bring all these things together and still get the man into his profession with his full attainment at such a reasonable age that he will have time before him to do his work?

I was glad to hear brought out by President Moffat the broader idea of the value of the man. What are we training men for? I claim that four years of college work is of value if it simply does nothing more than change the ideas of young people, and their ideals. If it can change the ideal of a young man from being simply a grocer to being a merchant in the community, the education has not failed. If it can change his ideal from being simply a farmer to a citizen agriculturalist, the education has not failed. If the ideal of a young lady is changed from that of being a housekeeper to that of being a home-maker that education has not failed, it is worth the time; and, if it can change the ideal of a young man from being simply a doctor, to being a citizen physician, a missionary in that community, then that education has not failed and the time put into that education is not time lost. In the long run it is time saved. It is money invested and stock in trade.

How are we going to bring all these things together and get the young man out into practice? I have little sympathy with the "short cuts." God has set something in this world that we cannot ignore—the time of development. You cannot make a mature, poised, twenty-five-year-old man out of a sixteen-year-old impulsive stripling, however you may force your process. A young man cannot get into the work of life and be a well poised, judicious man, such as we want to trust with our interests at less than the age that naturally comes, and we have to take that time for it. While the man through the short cuts may learn the process of doing certain things, yet he is not the mature man, the man of poise whom you want to trust in a crisis.

I claim that the best educated man—not the best instructed man—is the man who has the greatest number of points of contact with the world, the world of force, that is all about us, physically, intellectually and spiritually. He is the man who is developed within himself. President Moffatt brought out the fact that a little remote knowledge might save a man. These are the men we need. We want all-round men who can do something, to be sure, but who can do more than one thing, men who have resources within themselves, with breadth and poise. We are not gaining such men by this cry for short cuts. You must pretty nearly follow God's process of development and maturity and you can't force it much. The question is to bring these things together and the man to his work in the best prepared condition and shortest length of time. The medical schools maintain that four years in a medical school are necessary to admit a man to medical practice. They imply with that that the more training a man has outside of the medical course, *i. e.*, the more high school and college preparation he has, the better prepared is he for his medical training and practice. The ideal is the full public school and college courses. But there are conditions which make the ideal impossible in many cases. Where the ideal is impossible, it would seem wise to make the approach to it as accessible as possible. The medical schools or state medical authorities should set the minimum requirement. We must say to the young man, "Aside from the minimum it depends upon yourself how much you want to put into yourself." That ought to be brought home to every young man. Education helps one to live with himself. I think the combined shortened course is a more far-reaching proposition than we realize. A course of six years practically means that the liberal arts courses of this country must be reduced from four years to two years and the degree conferred upon a Sophomore. While the proposition does not affect me or my college more than any other college, it means much to the educational conditions of this country. If we make this combination with the medical schools we must make it with every other technical school. The number of medical students that go to our colleges are almost too small to be considered; they go past the colleges from the high school to the medical school. The most reasonable combination that I see and which has been mentioned here is the seven years' combination course; that the liberal arts college shall give the three years, and the fourth year be given in the medical school, and at the end of the first year of medical work the student be certified back to receive the bachelor degree. That is a reasonable combination, but there is a distinct compromise in it. The medical schools admit high school students to their first-year courses; then the college student who has had three years of his college work is admitted to the medical school and takes the same kind of work that is given to Freshmen and is given Senior credit for it. Senior credit for Freshman grade of work is not allowed in a college of good standing. That is about as far as the compromise ought to be allowed on the liberal arts courses. I know there is an argument that the requirements have advanced and that a Sophomore to-day is about as far advanced as the Senior used to be twenty-five years ago. This is an advance which has come along with the times. The general high school has progressed so that the advancement in education is only in proportion with the advancement of public affairs to-day. I do not think that the requirements for college entrance have at all been advanced beyond the requirements and demands of the public life of to-day. So it seems to me that in this discussion we can suggest only a minimum requirement and leave the rest with the individual to make as much of himself and his opportunities as possible. But in this requirement the standards of the liberal arts college must be preserved.

The President: Presidents Collie and Crawford, who are announced on the program to continue this discussion, have been prevented from coming. Both have sent letters apropos of the discussion, and I will ask the secretary to read them at this point.

The Secretary: This from President Collie, of Beloit College, whose suggestion last year led to the calling of this conference.

It now seems necessary for me to go to Arizona during the holidays, and I shall not return in time to attend the meeting.

The thing that I wished especially to speak about was the medical practice acts and the injustice done to independent colleges by these new laws. These enactments are practically forcing many of the colleges to talk about incorporating as two-year medical schools, and I expect that the legislatures of many western states will be flooded with the petitions for such incorporation within a very few years. It is the only way in which the smaller colleges can protect themselves. If this is done, however, it will be extremely unfortunate and the American Academy of Medicine can render a very important service if they can switch this movement off. If the medical practice acts could be so amended that the medical schools could give credit for pre-medical work done in the colleges, it would solve the problem; and I can see no reason why this should not be done. Certainly the majority of colleges can do as good work in physics, chemistry and biology as the medical school, and there is no earthly reason why this work should not be accredited. Certainly the accrediting of such pre-medical work would do much less harm than that which is sure to follow if a lot of colleges incorporate as medical schools.

The Secretary: President Crawford, finding that another appointment would prevent his coming, requested Prof. Robert S. Breed, of the Department of Biology and Geology, of Allegheny College, to prepare a statement for this discussion. Prof. Breed writes:

President Crawford has asked me to write to you on the topic, "What Can the College and Fitting School do to Aid in the Study of Medicine?" before your meeting in Pittsburg on January 2nd and 3rd.

To me the problem of preparing men for the medical school is similar in all of its general relations to the problem of fitting men for the law school, the theological school or any other professional school. I believe that the medical man should receive the same training in literature, philosophy, history and science that every person of culture and refinement should receive, a training which will give them an insight into all of the varied and complex interests in the life of man.

Beyond this the college can give the prospective medical student courses, which, while they are taught from the standpoint of their cultural value, may still serve as the foundation for the professional training which is to follow. I believe that each medical student should have at least a reading knowledge of German and French, a good course in college physics with laboratory work and extended work in chemistry and biology. If the entering college students will but plan their work far enough in advance, they can complete qualitative and quantitative analyses, and an elementary course in organic chemistry. If they would do this, the medical school could give the practical applications of chemistry to medicine in a short course.

I would, however, especially plead for a fuller recognition of the value of modern biological training for medical students. Medicine has handicapped its development immensely by regarding its field as narrowly limited to man. Man is but one species of animal, hundreds of thousands of them, while plants and animals are but two different ways in which the forces of life are expressed. Medicine is in fact but one small part of the field of biology when that science is regarded in its broadest sense, as the study of the life and activities of all living things. It is manifestly illogical to start the study of a special limited field without an understanding of the whole field. It leads to distorted prospectives and causes men who have the secret of important new discoveries lying bare in front of their eyes to overlook them or to overestimate or underestimate their value.

Witness what the partial recognition of the broader biologic conception of medicine has already accomplished in the development of bacteriology, the newer study of the sporozoan diseases and the part played by insects and other animals in the transmission of disease, and many other fields. The medical men need to watch out, for the biologists are already invading their fields and plan many new invasions especially in the realm of preventive medicine. Medical men have reason to be justly proud of their wonderful cures. They cannot feel equally proud of their success in preventing disease. I venture the prediction that the greatest new discoveries in medicine in the near future are to come in this field, and that by men who have had a biological training even though they may never have had a technical medical education.

I believe that the ideal preliminary training for medical students should include at least four-year courses in biology including first, a course in general biology which should deal not only with the general anatomy and physiology of a selected series of type animals and plants, but also a history of the development of the science, a study of the interrelation of species as included under the heading of ecology, a study of the distribution of living things in time and space and, finally and most important, a study of the great laws and principles of biology with a discussion of the most important theories.

This should be followed by courses in the comparative anatomy, history and embryology of vertebrates with frequent references to the subvertebrates. Additional training in botany, especially in general bacteriology, is highly desirable together with training in laboratory technique. All this is work which I regard as essential in preparing for the study of medicine and I know that it is possible to give such a training in the ordinary college.

It is far better that these courses be taught there rather than in the medical school, for in the college they are taught from the standpoint of their general cultural value rather than from the standpoint of their practical application and so the student gets the broader viewpoint. The medical school should then give the student the special applications of these subjects to man. The question of physiology is far from being in as satisfactory a position as that of the morphological subjects. Few colleges are in a position to teach courses in comparative physiology and in fact the general biologists are wofully deficient in this subject. For the time being the medical schools must do what teaching is done of this subject.

At the present time, the colleges and the medical schools are not working in the harmony that they should, and the men who have completed these courses in college are not receiving the credit that they should for them. If more medical schools would adopt the plan of entrance requirements that Western Reserve and Cornell have done and that others are thinking of doing and would then insist that the college men have completed certain courses, it would tend to bring about a system which would put medical education on a much more satisfactory basis than it is at present.

Chancellor S. B. McCormick, Western University of Pennsylvania:

Professor Mercer brought out the idea that at the present time colleges are prepared to do a part of this work with equal efficiency and perhaps in a better way than the medical colleges themselves, and I am perfectly sure that it is possible for the two institutions to come together so as to arrange a course which will interfere with neither and perhaps increase the efficiency of both. In our own university which combines the arts course and the medical course we have worked out a satisfactory plan to cover the whole matter in seven years, and we hope that this course will be elected by an increased number of students.

I was interested also in the first paper of the morning because of the fact that this whole problem covers the process of education in this country. I agree with the author that there is a possibility of lessening the period of preparation. At the present time 26 years is the minimum age at which a man gets into his life-work, and whatever we may say as to theory, as a matter of practical fact, that seems to be pretty well along in life to begin one's career. When you add to the twenty-six years, one or two years of hospital work, you see where a man is. These discussions ought to cover the whole period and we ought to plan to do what Great Britain and other countries are doing—to save the time in grade schools so as to put a young man into the ordinary college training at two years earlier than at the present time. If we work upon this combined course as the colleges are doing to-day, I think we shall eliminate every difficulty and come to that time which is much desired, when every medical student shall have practically a college course before he enters the technical training. We must remember, however, that it will be necessary to go over the whole period and make concessions all along the line. I believe we shall ultimately be able so to arrange the courses as that a man may complete his professional training at the age of twenty-four. This will give the medical man two years for hospital work and put him into his life-work at twenty-five or twenty-six years of age.

Prof. C. H. Eigenmann, University of Indiana:

I was exceedingly glad to hear at least part of the paper which was being read when I came in. It seems to me to hit the nail on the head. The education of the physician should be more general than it is in many of the colleges at present. It should not be confined to teaching the bare tricks of the trade. I have pre-medical students in general zoology for two terms. I also give a course on general biological problems, evolution, heredity and kindred topics. While I have a conviction that they ought to hear these lectures I have always some hesitation in recommending that our medical students should attend them because they do not lead specifically to medicine. The subject which has been the greatest bone of contention is embryology, which all medical students are required to take. There is either too much cytology in this course or not enough, too much germlayer or not enough. too much fetal membranes or not enough, too much chicken embryology for men who claim they are not going to be hen doctors, etc. It is interesting to note that even members of the medical faculty of the university have at times condoled over the hardship of the students in being compelled to do work that does not directly lead to rubber-tired buggies, and have come to give me advice as to how the course in embryology should be conducted for the medical students. I was beginning to think that, after all, I might be wrong and I am therefore, very glad to receive this hearty support from Mr. Breed for our method. We found several years ago in Indiana University that we were offering our undergraduates all of the scientific courses of the medical curriculum except anatomy and pathology. The only logical thing to do was to give them an opportunity to also elect this work during their college course and enable them to elect the entire first two years of the medical curriculum while undergraduates. After that was done we found that in order to give our students the full benefit of their work we would also have to offer the last two years of a complete medical school and we again did the only logical thing.

At this point the Academy took recess, and upon reconvening, President Davis said:

I have jotted down a few items which seem to me to express the consensus of opinion so far expressed in this conference:

(1) A preliminary college education is just as important as ever and for the same old reasons.

(2) That it is advisable for a few medical colleges to require the A.B degree for entrance to their institutions, though at this stage of our development it is not advisable for all medical colleges to have such strict requirements.

(3) That the requirement of medical colleges and state boards that four years and nothing less be required for a medical degree is an arbitrary one.

(4) That universities as a compromise may have a combined course of seven years.

(5) That too much time is consumed in public schools and high schools. In Germany almost two years are saved in this regard.

(6) That a thorough public school and collegiate and medical course should be arranged to be completed in twenty-four years, and that it can be completed in that time.

These ideas seem to me to be practical working ones at the present time and I wish you would confine your discussion to them.

As to medical examining boards, two views seem to prevail. The first and original one is that medical examining boards are simply established to require and secure the minimum knowledge necessary in practitioners of medicine. The second view is that to them shall be relegated the police power of the state over all medical practitioners, both before becoming doctors and afterwards.

Dr. Murray Galt Motter, Washington, D. C.:

I beg to suggest to Dr. Davis that he modify the statement of his third point in this particular. That the requirement of four years in a medical school is, perhaps, an arbitrary one. As to the function of the state board, that is, of course fixed by statute, whether its work is to be confined to the determination of the course necessary for the licensing of the practitioner of medicine, or the regulation of the whole life and work of the physician, it seems to me it is still all an exercise of the police function of the state. The second proposition is simply an extension of the first, that, by virtue of its police power, the state steps in and in this way among others endeavors to protect the people.

Just a word as to the discussion we had this morning. It has been suggested, and perhaps it is a little more than a joke, that possibly one of the reasons for the difference between the success of the high school graduate on the one hand and of the college graduate on the other after he takes up the medical course, is that the college graduate is, to use a slang expression, "too cockey." He thinks he "knows it all," while the high school graduate has a better knowledge of his limitations and, therefore, when he gets into the medical school, buckles down to work more closely and applies himself more thoroughly. Personally, I have often felt that, as Dr. Moffatt remarked this morning, a full, regular, classical course is none too long for the prospective medical student. Practically, however—and that was the point which I endeavored to make in my paper—it cannot be looked upon as absolutely essential, however desirable it may be.

One other word, with regard to the discussion this morning, as to the biologic courses furnished by the colleges. I think the college does not fully appreciate the position of the medical men with regard to it. I think that medical men recognize that a course in comparative anatomy, for example, is a good preliminary training for the prospective medical student; but, the medical men seem pretty well convinced that such a course cannot be accepted as equal to, or in place of, a course in human anatomy. To-day more than ever a course in comparative anatomy is useful because in some of our institutions we have practical courses in surgery upon the lower animals, and the man with a preliminary training in comparative anatomy is obviously much better prepared to take that work, but, whether a student who has had such a preparatory course can be admitted to advanced standing in the medical school is, perhaps, still an open question.

Then, with regard to this question of advanced standing, I would remind the members of the conference of the fact that the Association of American Medical Colleges, after long discussion last spring, decided that they must insist upon the full four years in a medical school. The question as to whether subject credit could be granted was referred back to the committee for further consideration. In brief, as I understand it, time credit is denied, and subject credit is still sub-judice.

Dr. Seneca Egbert, Philadelphia:

Two or three things have been omitted from the foregoing papers and discussions which should be kept clearly in mind. In the first place, many boys do not determine upon their profession sufficiently early to get the advantage of the economy of time suggested by our friend from New York. To get through at the age of 24, according to his schedule, a boy must make his decision at 12 or 15 years of age. Many men do not know until they are out of school or even college that they are going to study medicine. Therefore with any system that is suggested we must take cognizance of this fact. Also there is a large number of men whose circumstances when they leave the high school are such that they must intermit their education for at least a time, and there are others who only later on become convinced that they desire to study medicine. There ought to be in any system of education a place for such men, because many excellent physicians have thus found themselves and their vocation comparatively late in life. Our present Senior class had over 25 per cent. of its men over 25 years of age when they entered the medical school, and among these we have some of our very best students. They should not be cut out in any scheme of education, and if they are, we make a grevious error regarding the men, the profession and the public. Because of the practical difficulties in the way of such men taking a full college course, I think it will be a long while before we can insist upon the possession of a bachelor degree in arts or sciences as an essential to entrance to the medical school. Therefore, there should remain some medical schools which will admit such men, and I think we ought to be fair enough to see that such schools should have no opprobrium attached to them.

Please understand that I am not in favor of lowering the standard, and that I urge every man who can afford it to get some college training and to stay in the college, if it is possible, until he gets his degree.

Regarding the value of a college education, I think Dr. Church well expressed it when he said that an education enables one to live with himself. The college man is a better man because he is a broader man, but this should not cause us to forget that we must make provision for the men who in our present conditions of life do not get such an education.

Another change well worthy of consideration is that of an improvement in our high school work. In this state, barring the University of Pennsylvania, every student entering every other medical school has his credentials viséed by the state examiner and the deans of the schools have practically nothing to do with the man's admission. Many boys bringing credentials accepted by the state examiners are not well trained. Such students may show illiteracy but yet answer the questions correctly. Perhaps it would be well if this illiteracy were reported by teachers to the deans but it frequently is not, and the man finally gets his passing mark. I also think that in our medical schools we rather tend to make men quasi-illiterate by requiring them to take notes at high-pressure speed. They learn to misspell and to be careless in diction and have slight chance during the course to correct this influence.

For years I have fought for some concession being given the college graduates, and in our school we have heretofore given them advanced standing, conditioning such men, however, in some branches. In nine years only one failed to make good at any state board examination and that was owing to illness just before the examination. This year, because the State of New Jersey absolutely refused to hereafter consider any man who had been given such advanced standing, we have been obliged to tell college students that we can give them no allowance for time.

In any scheme of education, looking at it from a pedagogic standpoint, the four-year course, coming after the high school, may be looked upon as co-equal with a technical course in any of the other colleges. The degree of bachelor of medicine might, therefore, be granted to those men who have gone through the high school and have done their work well in the medical school, but the law would have to be altered so as to permit these men to practise. On the other hand, that same school could give the doctorate degree to the man who had taken the antecedent college course. Thus you would have a distinction with a difference, but it would take much courage on the part of a medical school to adopt such a plan. Meanwhile, we should urge every medical school in the country to raise its standard as high as is practicable under existing conditions. Cornell can set her standard where it now is, but we cannot all do equally well just yet and those which cannot should not be disparaged for doing less, provided they show by their work and results that they are qualified to graduate men who can safely and fitly practise medicine.

Dr. Joseph H. Raymond, Brooklyn:

There seems to be a general impression which is not the result of my experience that high school graduates succeed better than graduates of colleges. In an experience of a great many years, that has not been the result of my observation. In many cases in which high school graduates do better than college men, often an additional amount of education has been received afterward in other lines. When I look back over the men graduated from the institution with which I am connected, the men who have succeeded, the men who have made their mark in their profession, are college men. I know of no higher work that this Academy could do than to collect statistics upon this point. I believe it would be shown that what Dr. Moffatt and Dr. Church have said is true, that in the long run and not looked at from the near point of view, the man who spends his time acquiring a college education is saving it, and that the man who puts money in education of that kind is not spending his money but investing it. I wish the Academy would take this subject up and obtain statistics which would settle the question of the actual value of the college education from the practical standpoint.

I was glad to hear Dr. Egbert speak of the lack of education upon the part of medical students. Of course, I know where the difficulties lie; I know that if state authorities—the state boards—should reject the certificates from high schools and academies, not accepting them for their face value, there would be such an opposition as would be probably fatal to the position which these authorities have assumed. The question is one that is constantly confronting us, as to what we shall do with the man who has fulfilled all requirements as to preliminary education and yet who shows that he is not qualified in the sense of being an educated man. Medical teachers are divided. Some think such a man should not be permitted to receive his degree. Others say that it is not a matter with which medical colleges have anything to do. I should like Dr. Lewi to tell us whether the state board of medical examiners pay any attention to the literary qualities of the paper, whether the illiteracy of a man who is otherwise qualified for the state license is taken into consideration.

Dr. M. J. Lewi, New York:

In reply to Dr. Raymond's inquiry, I beg to state that the State of New York, through its state board of medical examiners, of which I have the honor to be secretary, takes no cognizance of a candidate's literary attainments. Such is not the function of the board, but when a candidate's literary defects are glaring, the examiner reports the case to the secretary of the board who, in turn, refers the case to the board of regents so that observation may be made to determine whether or not it be a case of substitution. All candidates have passed the academic tests of the state board of regents before being *admitted* to the medical licensing examinations. We all realize that many people, highly educated, are at times unable to utilize knowledge imparted to them in their younger days. For instance, some of the most eminent men in the history of our time are known to be bad spellers; to ruthlessly turn down an applicant for the right to practise medicine, whose credentials show that he is qualified for admission and whose examination work shows him qualified medically to earn his license, because his answer papers contain misspelled words, would be quixotic. True it is that under the rules in force in New York State substitution at a medical licensing examination is well-nigh impossible. The candidates are photographed and the photographs are compared with the originals; the candidates are examined under number.

In all that I have heard in this discussion to-day, it seems to me that the viewpoint has much to do with the conclusions which have been reached by those discussing medical interests. I think it safe to say that we hold one view in common; the highest ideals are the ones we should continuously have in mind for those who would enter the medical profession, but our first duty in this connection is to the public and thus we serve the profession as well. Whether our respective work is to prepare students for admission to medical schools or to teach medical students to become medical men, or whether we are connected with a state board of medical examiners, the main point to be kept in mind is that our primary duty is to serve the public.

The creation of state medical licensing boards was based on the fact that the medical school in this country was not a part of the state government and that it was the highest function of the state to provide that no private institution graduated doctors of medicine who were incompetent. In consequence of the creation of the state board of medical examiners, medical schools have become better equipped so that students are being better trained and medical graduates have become better practitioners. In New York State a comparison of the first examinations held under the auspices of the newly created state board of medical examiners in 1891 with those of 1907 shows a marked improvement in method and in matter.

The commercial aspect of this situation is worthy of observation. There are millions of dollars invested in colleges and hospitals as a part of the great fabric which is attempting to build up an increased usefulness of medical men. To jeopardize these material interests by harsh legislation would be a step in the wrong direction, even though we should continuously bear in mind that we are striving for the ideal which shall produce for the public a medical profession made up of types which shall make the United States pre-eminent as to doctors of medicine.

I have every confidence that the laws on the statute books in the various states of the union, now in force, and to be enacted later on, will be effective in bringing to pass just what this Academy of Medicine started to accomplish years ago. However, the ascent must be gradual and must be made with careful consideration, for all interests concerned. The proportion of those imbued with the conviction that the highest kind of preliminary education is advisable to those contemplating a professional life, is doubtless increasing each day. This process, however, cannot be forced. The trustees of an individual university may decide that students shall not be admitted to a professional course within its walls without first having earned the A.B. or the B.S. degree, but wholesale laws to that effect cannot be passed at this time, because the public is not ready for so radical a departure. Those advocating such a step would be charged with attempting to create an aristocracy in medicine and in law, for it would mean that none but those who have abundant means at their disposal could enter on a career which postponed bread-winning for such a late date in life. We must frame our legislation, not in a prohibitory manner but in such a way that the work of the individual will be accentuated under the enactment of liberal laws. At some future meeting of the Academy I hope to present my views on the subject under discussion after preparation and in a less tangled and desultory manner.

Dr. Motter:

I should like to ask Dr. Lewi upon what he bases his statement that more college men are coming into the medical profession. As I recall the last statistics, to which I have had access, the percentage is as low as 21 to 23 and has been for some years past.

Dr. Lewi (answering Dr. Motter):

The increase in the number of college men entering the medical profession has been from 3 to 4 per cent. for the last ten years in some schools. In some New York schools this increase has been over 10 per cent. The statistics are not published, but are being made up in New York.

Dr. Seneca Egbert:

I should like to ask whether it will be possible for each member of the Academy to receive a copy of the statistics which Dr. Lewi tells us are in course of preparation.

I have always believed that the college man would come out better in the long run, but I am pleading for a fair show for the man who is anxious to be a physician and who is twenty-five years or over. Can we conscientiously advise a man of twenty-five or over to take this long course in the college and medical school, especially if he has a family to support? Should we, on the other hand, say to that man that he is too old to go to college, and that therefore, it is not wise for him to study medicine, even though he has been thinking of it for perhaps ten, fifteen or twenty years?

Professor Blake, of Lehigh University, South Bethlehem, Pa.:

There are two things which Lehigh University, the institution which I have the honor to represent, hopes will be gained by this conference. One is a decisive answer to the question whether it is desirable, in view of the advanced age at which a man gets through the combined course of four years in college and four years in a medical school, to compress these eight years into seven, or possibly six; and secondly, can this be done by the student who takes his first degree in a detached institution, one without a medical course and not affiliated with a medical college? The average age of entering students at Lehigh is a little more than nineteen years. Add to that eight years, and a man is twenty-seven years of age before he can begin the practice of his profession. That certainly is a long period of training, the expense of which few parents can afford, and it seems to indicate the desirability of the shortening of the time. No one will maintain that such standards should be established as will make the practice of medicine open for the most part only to the wealthy, but at the same time one must not lose sight of the importance of a most thorough training for the man who comes into closer contact with human life, and has a larger influence upon it than any one else, and such a training is not to be had in adequate measure without the expenditure of both time and money. But now, conceding the desirability of shortening the combined course, how is this to be accomplished? It has been brought out here that in many universities the work is done in seven years. That seems perfectly reasonable where the two courses, being under one control, can be properly correlated to each other. But what about the smaller, the detached college; how can its students reduce the combined term? Two plans are suggested. (1) That the detached college shall permit its students at the end of the Junior year to go to a medical school, and after they have completed one year in the medical school grant them their A.B. or other degree. At present, at least, we do not at Lehigh regard this course with favor. We carefully plan our A.B. work with reference to the A.B. degree, and we are hardly prepared to give up the entire Senior year to professional study under other control. And even if we were prepared, we would be hindered by a lack of uniformity of practice in the medical colleges themselves.

The second method is the one in practice years ago, by which a man, having taken in his A.B. course certain subjects—chemistry, biology, physics, etc.—might have his medical course shortened to three years. This is the method which, from the point of view of the detached college, seems the logical one, for these subjects are not the exclusive possession of the medical student, but are legitimate parts of a liberal education. Upon them the physician builds, specializing according to the peculiar demands of his work. That such subjects as general chemistry, qualitative and quantitative analysis, organic chemistry, general biology, comparative anatomy and physics are better taught in a medical course than in an A.B. curriculum I do not believe. On the contrary, I have reason to think that the courses in these subjects as given, if I may be pardoned the reference, in Lehigh University are broader, and more efficient and painstaking than in most medical colleges; certainly they should stand as equivalent to the same work in a medical course. Is it not possible then for the medical colleges to adopt some uniform practice by which credit will be given to the college graduate for work done in his college upon subjects and to the amount which the medical colleges shall themselves prescribe? As the situation now is, most medical schools put a premium upon illiteracy, for they invite graduates of high schools upon the same terms as graduates of colleges, and the college graduate naturally gravitates to the medical school that requires a college degree for admission. Such medical schools as are not prepared to adopt a college degree as a standard of admission would seem to be acting in their own interest as well as that of the colleges if they attracted as many college men as they could by allowing credit for work done in college upon some such lines as I have indicated.

Dr. Thomas D. Davis, Pittsburg:

In answer to Professor Blake, I should like to say that is exactly the provision that for a number of years was carried out, but that the arbitrary ruling of the state medical boards that four years should be spent inside of a medical school is the difficulty. That is a very just and, considering the education of the country, a very wise provision, but owing to the ruling of the state examining boards, and the law in some states, four years are required in a medical college.

Dr. Charles McIntire, Easton, Pa.:

It was mentioned in regard to the action of the Association of American Medical Colleges that it might give credit for subjects, but not for time. We understand very well that the action in that depends largely upon the laws of some of the states and the rulings of the board of examiners under chose laws. For instance, Minnesota not only insists that all candidates for licensure in that state must have had four years in a medical college according to the statute under which they are exercising their function, but should a college admit a man to advanced standing, even though all the graduates of the college that appear before the Minnesota Board have complied with their rules, they are not eligible because the medical school admitted some one else to advanced standing. The Association of Medical Colleges, therefore, was simply afraid that it would exclude their students in some of the states if they did not insist upon a four-year course. Some of us can readily see, reading between the lines, that there are a certain number of them who are keeping the standard of the Association of American Medical Colleges at a great effort, and their attempt is to get the very minimum. In the necessity of having the student for four years the additional fee is a large consideration. I do hope that the committee which is to formulate certain suggestions as the result of this conference will emphasize the injustice of a law which insists upon the number of years or the number of hours to be spent in a medical college. We want results, not the time spent n the study of a certain subject. If the applicant for licensure can show that he has the thing desired, what difference does it make where he acquired that thing? Thus, if any of the colleges represented here to-day would be satisfied that a student presenting himself to their college, had acquired a certain amount of information and instruction fully equivalent they would give him advanced standing. The rule which applies to the literary college should apply also to the medical college. It seems to me we ought to urge for a change of the law, whereby the standard shall not be lowered, but whereby the requirements will be expressed in something else than the mere attendance upon a certain college for a certain definite time. Otherwise, the result will be that the little colleges will apply for charters for medical departments and not attempt to do any clinical work. They would take the first two years and then refer students to the other colleges. What aid to medical education would that be?

While we are discussing the desirability of a full rounded education for the man before he takes up his technical studies, I do not think the Academy has ever insisted that the college course is a necessity for all people entering medicine. We wish to so conserve the interests of the men who have the broad education that they shall receive the benefit of the education they have obtained and not be required to go over certain subjects. There should be some relation between the literary college and the medical college so that the man should be given credit for whatever he has; not that the A.B. degree should give him six months or a year, but that if a man has the "goods" he should be allowed to benefit by them.

Dr. John L. Heffron, Syracuse, N. Y.:

It seems to me that the ideas that have been expressed in this conference indicate that in order that the results of the conference shall have any practical benefit we must consider three different classes of medical students: (1) Those who are limited in means and in time; (2) those men with the highest ideals and the greatest amount of ability and with sufficient means who desire to pursue to the utmost the science of medicine as well as the art; (3) those men who are ambitious for the best possible preparation for the practice of medicine in accordance with the position of Dr. Schurmann without the expenditure of too much time and money.

I think all of us will agree that the pursuit of pure science as it is taught in the large colleges has cultural value as great as that acquired in the study of languages or of letters in the last two years of an arts or science course. It seems to me an arrangement might be made whereby a man should be permitted to differentiate his course at the end of the Sophomore year so that if he elected to study medicine he could select those studies which look to a medical degree.

My own personal observation is that the sciences are absolutely better taught in the liberal arts college than in the medical colleges. I have no hesitation in saying that the subjects of comparative anatomy embryology chemistry, some parts of organic chemistry, histology and also bacteriology, can be and are perfectly well taught in a liberal arts course and that the scientific value is equal, if not superior, to the same course pursued in a college of medicine. If the liberal arts college would recognize that the second year in a medical college course would be equivalent to the Senior year in the liberal arts college, and if the college of medicine would make the concession that the fundamental sciences could be perfectly well taught in an arts course, we could have a combination by which in six years a man would be able to acquire the bachelor's degree in science or arts and the degree in medicine. I am glad indeed to have been able to attend this meeting and I think good will come from the conference.

OBSERVATIONS IN PASSING.

PRELIMINARY PROGRAM FOR THE 33RD ANNUAL MEETING.

The meeting at Chicago should receive and discuss the reports of the following committees:

"On the Best Means for the Medical Profession to take part in the Education of the General Public in Medical Matters through Publications, Etc.," Dr. Edward Jackson, Denver, *Chairman.*

"On Teaching Hygiene in the Public Schools," and in connection with this the report of our Delegate to the Second International Congress on School Hygiene, London, 1907, Dr. Helen C. Putnam, Providence, *Chairman.*

"On Conference with Educational Institutions on Medical Education," Dr. Charles McIntire, Easton, Pa., *Chairman.*

As the proceedings of this conference are published in the last number of the Bulletin and in this, this report will be considered along with the report of the special committee appointed at the conference to formulate conclusions from the papers and discussions, Dr. John L. Heffron, Syracuse, N. Y., *Chairman.*

The report of the Delegate to the Annual Conference of the Council on Education of the American Medical Association, Dr. Charles S. Sheldon, Madison, Wis.

A paper on "Some Considerations of the Necessity for a Rational Curriculum for the Doctorate," by Henry Beates, Jr., of Philadelphia.

"To Collect Data as to the Amount of Damage Done by Alcohol in Moderate Drinkers," Dr. Woods Hutchinson, New York, *Chairman.*

"To Prepare a Draft of an Act to Create a State Board and Medical Examiners," Dr. Charles McIntire, Easton, Pa., *Chairman.*

The symposium for the year is on "The Place of Woman in the Modern Business World, as Affecting Home Life, through Marital Relation, Health, Morality and the Future of the Race."

Under this the following papers are promised:

1. "As Affecting the Home-Life and the Marital Relations," Dr. A. Stewart Lobinger, Los Angeles.
2. "As Affecting Health," Dr. L. Duncan Bulkley, New York.
3. To be announced: Dr. Otto Juettner, Cincinnati.
4. " " " Dr. Norman Bridge, Los Angeles.
5. " " " Dr. Edward B. Heckel, Pittsburg.
6. "The Invasion of Masculine Pursuits by Women—A Statistic Study," Dr. A. L. Benedict, Buffalo.
7. "The Influence of Modern Methods of Education upon Women, Their Home-Life, Etc.," Dr. George H. Hoxie, Kansas City, Mo.

* * *

The crusade for officinal preparations is gaining in numbers and zeal. Prof. Joseph P. Remington, editor of the U. S. Pharmacopoeia, assembled an informal conference of medical teachers from the Philadelphia Colleges last February. As a result the following resolution was adopted:

Resolved, "That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to these portions of the United States Pharmacopoeia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and further, that this resolution be forwarded to the medical and pharmaceutical journals, and to the teachers of medicine and therapeutics in the United States."

* * *

Dr. L. Duncan Bulkley is giving a course of lectures at the New York Skin and Cancer Hospital, Second Avenue, corner of 19th Street. The lectures are given on Wednesday afternoons at 4.15 o'clock and will continue until the 15th of April.

* * *

The fifth Pan-American Medical Congress will be held at Guatemala, the Capitol of the Republic of this same name, from the 6th to the 10th of August, 1908, under the presidency of Dr. Juan J. Ortége, with Dr. José Azurdia, secretary.

The Smithsonian Institution offers a prize of $1,500 from the Hodgkins Fund, in connection with the approaching International Congress on Tuberculosis, at Washington in September and October of this year. The subject for the memoir is: "On the Relation of Atmospheric Air to Tuberculosis," and papers having relation to the cause, spread, prevention, or cure of tuberculosis are included within the general terms of the subject.

The papers may be written in English, French, German (Latin script if pen-written), Spanish or Italian. They may be read at the Congress or sent either to the Smithsonian Institution, or to Dr. John S. Fulton, Secretary-general of the Congress, 714 Colorado Building, Washington, D. C. All papers must be presented before the close of the Congress, October 12, 1908.

AFTER CONSULTING HOURS.

PRACTISING IN PIKE.

BY THOMAS HALL SHASTID, A.M., M.D., LL.B.

XI.

DIPLOMACY.

We called, one day, to see a sick negro boy. The place was a little old log cabin deeply secluded in a cornfield. My father, who had been to the hut before without me, told me before we entered that, although the boy's father and the boy himself both wanted him to be the doctor in the case, yet the mother did not, but, upon the contrary, was most bitterly opposed to his coming. "To tell you the truth," said he, "I haven't caught a glimpse of the old aunty since I began to come."

Sure enough, as we entered the little one-room house the father and the sick boy were the only persons to be seen. However, when my father had finished his examination of the patient and was spreading some powder-papers on the band of the saddle-bags, suddenly, in the wink of an eye as it seemed, appeared at the foot of the bed a rather portly colored lady. How she had got there, I did not know; but there she stood—her form erect, her arms folded, a deep, deep frown lending additional darkness to her brow.

She spoke severely:

"What you gibin' dat boy *now*, Doc.?" It sounded like the crack of many dooms.

My father looked up kindly. "Something to bring down his temperature, Aunty."

"Huh! Don't aunty me! Dat boy goin' to git well, Doc?"

"I can't tell *now*, Mrs. Freecline: he's very sick. But we'll do the best we can for him."

"Well, he won't git well long's he takin' any *you'* med'cine, *suah.*" Here she jerked her head back, and uttered a large, round, open, red, sarcastic laugh.

"Well, that's more or less true," replied my father, wilfully misunderstanding her. "It doesn't *all* depend on the medicine. In fact, in cases like your son's here, a good deal more depends on the nursing. But *that's* all right, I know; for Mrs. Munson was telling me not half an hour since, that, if there was anybody that could cook just right for a sick boy and nurse him properly in every way into the bargain, it was the mother of this boy here."

"Huh!" said the old lady, a little mollified, I could see. "No lie 'bout dat."

"I told Mrs. Munson," went on my father, "that I had not been so fortunate as to have had your confidence in any case before the present one, and that I therefore could not speak from personal experience. 'But,' said I, 'Mrs. Munson, if you say that Mrs. Freecline is an excellent nurse, an excellent nurse, then, Mrs. Freecline is. And I know it just as well now as if I'd been the physician in their family for years.' And I don't mind telling *you*, Mrs. Freecline, that, when I know that a patient of mine has the right kind of nurse, it makes me feel good all over. Just, sir, good, from the crown of my head to the soles of my feet. For you see that the fact is just like this: When a patient has the proper kind of nurse, she listens to all directions, is careful of the patient, watches both medicine and clock as a hawk does a sparrow—."

"How you want dat med'cine give, Doc?" broke in the old lady, trying to preserve a trifle of the stern manner she had come upon the scene with, but failing utterly, and weakly falling into a low chuckle.

Then my father gave her carefully all the directions twice over, and in full, winding up his little lecture by recapitulating on the ends of his fingers. And the happy old lady listened smiling through it all.

As we rose to go, Mrs. Munson happened to be coming in to see the sick boy, and, unconsciously, corroborated what my father had been saying.

As we drove away, we heard a rich, contralto, happy voice singing:

"*Don't you hear*" —something or other.

For a mile or two after leaving Freecline's, my father spoke as though he thought himself a wily diplomat. "Didn't I bring her around beautifully?" he asked.

"You certainly did," said I, with genuine admiration.

After a moment, though, he recurred to the subject as though it did not altogether please him.

Then again, he recurred to it as though it pleased him still less.

At last, he cried: "I don't suppose I *lied* to her."

"What!" I exclaimed; "*lied* to her. Why of course you didn't lie to her."

"Mrs. Munson *did* say that."

"Of *course* she did."

"Still, I seemed to lend a kind of confirmation to it by repeating it."

"Well, what of that? Isn't it true?"

"Why, no—not exactly. That is, it isn't true, *unless all signs fail*. Anyway, I shouldn't want her nursing *me*."

Then he was silent, silent for a long, long time—deeply and gravely and bitterly silent. He kept slapping up the old horse, "Quinine," with a single line unconsciously, and then, as unconsciously, suddenly pulling him up with two. The summer cumuli piled up their changing heights above us, the lark sang, the quail whistled, boys shouted; but my father did not heed them.

I had never seen my father in one of his conscience wrestles before—though I had often heard my mother tell about them—and the sight was very amusing to me. So I laughed and laughed. But to my father the matter was serious. Something had to be *settled*. He said:

"I *lied* to her—l-i-e-d, lied, to her."

"Oh, well," said I, "what difference did it make?"

He did not heed my boyish answer, but was silent again for a long time. Then:

"I lied for the boy's sake, though, not mine. You see, if I hadn't lied to the old lady she wouldn't have listened to directions—and then the boy might have died. Nor was there any alternative in letting them get another doctor, for that would merely have shifted the problem, not solved it. Well (carelessly), I'm not going to worry about it—though it was *lying*, and I'm not going to call it anything else."

Then came the rebound. He bubbled over with gaiety. He whistled his best tune, mocked quail and lark, sang loudly of green peach puddings and blackberry pies, gave an imitation of a medical lecture he had once heard, and was, in a thousand ways, happy and hilarious. The struggle was over. The physician within him and the formal Christian within him had wrestled long and vigorously, and—shall I say it with pleasure or with pain—the physician had triumphed.

That very day—for so it happened—as we passed along a low and marshy road, a man from a little old weather-beaten house that stood sidewise to the fence, came out and shouted:

"Doc! *Oh*, Doc!"

"Well?" said my father, pulling up.

"Wife's purty sick. Wish you'd sorter step in an' see 'er."

We "sorter stepped in." And sick indeed she was. Her face was fairly purple with fever. "Humph!" said my father, as he looked at her tongue. "Humph!" he said again, as he finished counting her pulse. "Humph!" he said a third time, as he looked at the thermometer. "Humph!" be it known, meant "pretty bad."

Then he began to prescribe for her. He prepared first a draught, which they took in a tin cup. Then he made a bunch of gray-looking powders, which, also, they took in a tin cup. Last, but not least, he counted from a bottle a dozen exceedingly large, round, white, quinine pills; but the cup the husband had reached for these was jerked suddenly away. The patient, too, made a vague appeal with her hand.

My father bent close over her.

"What—." he exclaimed, "aren't you able to take quinine?"

I heard a faint whisper, "no, you *know* I hain't, Doc."

"Never *could* take it," put in her husband. "Sets 'er crazy. Jest pizen to 'er. I believe two grains would kill 'er—way she is."

"Oh! Is that so?" said my father. Then, returning the white pills to their bottle, he drew forth another bottle filled with even larger beauties—but red, red, all red, red, red.

The proper number of these he counted out; and the husband received them with evident satisfaction.

Before we left, my father mentioned incidentally that the powders would be rather more effective if given in slippery elm.

"Any in the house?" he asked.

"No, but we kin git some. 'Bout a mile from here. You George," he said to the oldest boy; "go git some slipp'ry elm fer your maw."

When we were on the road again, the old wrestle betwixt the doctor and the Christian in my father's heart began anew. I found it out accidentally by inquiring:

"What was in those red pills?"

"Quinine," said my father, sheepishly.

"Quinine!" I ejaculated. "Why, wer'n't the *white* ones quinine, too?"

"Yes."

Then he went on to tell me that many of the people who *think* that they can't bear quinine, in true reality can bear it very well. "This woman," said he, "is one of that kind of persons. Why," said he, "I've been her doctor for many, many years, and that same little proceeding of changing pills we've had to go through with, I suppose, a dozen times. She's always satisfied when she gets the red pills. It never occurs to her to ask if *they* are quinine, too. I always count out the white pills first, for fear it might occur to her to ask about the red ones. When I put the white ones back and take the red ones out instead she takes it for granted that the red ones are some kind of substitute for quinine—which, in a sense, they are; and that they won't 'pizen' her—which, of course, they don't."

And then he lamented bitterly the necessity for such schemes. "But what are you going to do about it?" he asked, in a vain appeal to me. "Going to let your patient die?"

I thought not.

"Why of course you can't do that. Going to tell them, then, that it's quinine, and leave it, whether they want it or don't want it?"

I thought that that might be done.

"Won't *do*," said he. "For then they won't give it, and that comes to the same thing—the patient may die." And he went on bitterly lamenting.

But in the midst of his lamentations, we heard a voice behind the buggy—the voice of George, who, *en route* for slippery elm, had seen his chance and, laying hands upon the buggy-bed, had provided himself with effortless locomotion.

"Fine day," he exclaimed.

"Yes, indeed," replied my surprised father, a little over-courteously. "Won't you get in and ride?"

"No, thanks. This here's good enough fer me."

We three talked together pleasantly, then, till we came to a cross-road; and there George left us.

Before he got out of hearing, however, he shouted:

"You're a good feller, Doc; I'll never tell on ye, so long's ye cure maw."

All the way home that day, I laughed. But my father only smiled, and that at times, and then very scantly. In the intervals between his scant smiles, he lamented bitterly, bitterly, bitterly, the necessity of solving problems that permit of only two possible solutions—both of which are wrong.

LITERATURE NOTES.

NOTICES.

I. MEDICAL COMMUNICATIONS OF THE MASSACHUSETTS MEDICAL SOCIETY, Vol. xx, No. 3, 1907.

II. PROCEEDINGS OF THE CONNECTICUT STATE MEDICAL SOCIETY, 1907.

III. TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA, 3rd Series, Vol. xxix, 1907.

IV. TRANSACTIONS OF THE LUZERNE COUNTY (PENNA.) MEDICAL SOCIETY, Vol. xv, 1907.

We confess a liking for the older volume of transactions in preference to the later periodical, and we group these volumes, received since our last issue, with special pleasure, each being worthy of commendation. Except so far as tuberculosis involves social features, there are no papers in the Massachusetts report directly interesting the Bulletin. There are four papers dealing with this subject.

The Connecticut Society is active in its efforts for the betterment of the people as seen by its reports of the committees on venereal disease, on a colony for epileptics, and on psychopathic wards in general hospitals.

The College of Physicians, although its history now covers parts of three centuries, shows no sign of decay. It is preparing to erect a much larger building for its library and museum, which have outgrown their present limits. A paper on "Preventive Medicine and Education" is the only one in a valuable list which presents sociologic features.

The Luzerne County Medical Society shows what a society with less than 150 members can do when there is a will to do it.

I. U. S. Geological Survey, Mineral Resources of the United States, 1906.
II. Ninth Report of the Michigan Academy of Science, 1907.
III. Proceedings of the American Philosophical Society held at Philadelphia for Promoting Useful Knowledge, No. 187.
IV. The Annual Report of the Schoolhouse Department from February 1, 1906, to February 1, 1907, Boston, 1907.
V. Report of the Seventh Annual Conference of Sanitary Offices, State of New York, 1907.

These titles have this in common: they afford illustration of the omnipresence of scientific thought and methods in the life of to-day.

Director Smith, of the Geologic Survey, requires a volume of 1307 pages to present a view of the mineral resources of our country, the extent of the mining and quarrying and the processes of preparation for the market.

The Michigan Academy of Science shows activity and variety in its discussions, as the quotations of the titles of two of its many papers will show: "Vegetative Reproduction in Erythronium Americanium;" "The Significance and Control of Starters Employed in Ripening Cream and Milk."

The history of the development of our nation could be written from the Archives of the American Philosophical Society. The number under notice contains papers on botanic, geologic, astronomic and physical subjects besides three on the language of some of the native tribes of Australasia.

The Board of Schoolhouse Commissioners of Boston in presenting the report of the execution of their trust incidentally treats of many questions of importance in school hygiene and economics—among others—heating, ventilating and electric systems; and artificial lighting.

The conference of the sanitary officers of New York at Buffalo last October was exceptionally valuable. Most of the discussions were purely hygienic, but there were several papers involving social questions as well. Among these we note "Labor Legislation in its Relation to Public Health;" "The Prevalence of Physical Defects in School Children."

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR ENDING JUNE 30, 1906. Vol. 2, pp. 645-1308. Washington Government Printing Office, 1908.

The chapters of interest to us are:

22. *Nurse Training Schools.*—In 1906, 974 schools are reported, with 19,963 women and 1,389 men students and 6,400, graduated.

25. *Schools for the Defective Classes.*—There are 39 schools for the blind, with 4,205 pupils; 135 schools for the deaf, 59 state institutions, 60 public day schools, 16 private day schools, with 12,270 pupils in them all; 41 schools for the feeble-minded, 16 of them being private schools, with 17,353 pupils.

27. *Summer Colonies for City People,* describing more particularly the "Arbor Gardens" of Berlin—a plan that took many of the poorer residents of that city out into the open during the summer months.

THE ARCHIVES OF DIAGNOSIS, A QUARTERLY JOURNAL DEVOTED TO THE STUDY AND THE PROGRESS OF DIAGNOSIS AND PROGNOSIS, edited by Heinrich Stern, of New York, and published at 250 W. 73rd Street of that city, issued its first number in January.

"The purport of 'The Archives' is to publish papers which embody the results of original work and observation pertaining to diagnosis and prognosis."

This first number contains twelve such articles besides the abstract departments. It is a journal worth examining.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE.

In June, 1907, a number of London Medical Societies Amalgamated, possibly somewhat after the fashion of our American Congress of Physicians and Surgeons, and formed the Royal Society of Medicine. The "Proceedings" contain the papers and discussions of the various sections of the previous month, but paged separately for each section, that the subscriber may be able to bind into separate volume the papers of each section.

Vol. I, No. 2, for December, 1907, is on our table, and contains the papers read before eleven sections. The work becomes valuable in securing an insight into the London medical work and British medical thought. It is projected on a plan to give both completeness and convenience. Nine numbers are to be issued each year, monthly from November to July inclusive, the price for each monthly part being $2.00 net delivered.

It is edited by John Nachbar, M.A., M.D., under the direction of the editorial committee, and published by Longmans, Green & Co., 91 and 93 Fifth Ave., New York.

DIE AUGENHEILKUNDE IN DER RÖMERZEIT VON DR. RODOLFO DEL CASTILLO QUARTIELLERS IN MADRID. Autorisierte Übersetzung aus dem Spanischen von Dr. Max Newburger Professor an der K. K. Universität in Wien. Franz Denticke: Leipzig und Wien, 1907, pp. 137.

This brochure is of interest to all, and of value to the student of medical history, as the mention of its principal chapters will show. Medicine in Rome; the seals of the oculists; monumental inscriptions of Roman oculists; Collyria, the naming, and the employment; Ophthalmic surgery; formula of Collyria, and the name given to Collyria.

We commend the work to those who desire to acquaint themselves with this phase of medical history.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the previous issue that are not otherwise mentioned in this number. The present list records publications received from January 21 to March 20, 1908, inclusive.]

This notice will be considered a full return for the courtesy of sending us the publication. Additional notices and reviews will be made, depending upon the space available, and for the best interest of our readers as judged by the management. Publications treating of medico-social questions will be given precedence.

Cosmetic Surgery: The Correction of Featural Imperfections. Charles C. Miller, M.D., reserved for fuller notice.

Bureau of Vital Statistics of the State of Connecticut, 59th Registration Report for the Year Ending December 31, 1906.

New York State Department of Health, Extract from the 28th Annual Report. 1907.

University of Illinois Bulletin No. 16, A Study of Roof Trusses No. 17. The Weathering of Coal.

University [of Nebraska] Studies, October, 1907. A Synopsis of Plant Phyle.

Colorado College Publication, No. 33.

The Burning of Coal without Smoke in Boiler Plant, U. S. Geological Survey.

Indiana Board of Charities, 18th Annual Report, 1907.

INSTITUTIONS OF LEARNING.

Connecticut, Trinity Coll., Bull. 5-1, Ja., '08 catalog; Wesleyan Univ., Bull. 1-3, D., '07, 1-4 Ja., '08 catalog; Yale Univ., Bull. 4-2, D., '07 catalog, 4-4, F. '08 Dept. of Med. *Illinois*, Univ. of Illinois, Announcements, 1907–'08. *Indiana*, Earlham Coll., Bull. 5-2, F. '08. *Maryland*, Woman's Coll. of Baltimore, Bull. 2-1, Ja. '08. *Massachusetts*, Harvard Univ., catalog, 1907–'08; Institute of Technology, President's Report, Ja., 1908; Mt. Holyoke Coll., Bull. 1-1, catalog, 1907–'08; Tufts Coll., Med. School, catalog, 1907–'08; Wellesley Coll., calendar, 1907–'08. *New Hampshire*, Dartmouth Coll., catalog, 1907–'08. *New Jersey*, Princeton Univ., catalog, 1907–'08, Annual Report of President, 1907. *New York*, Alfred Univ., catalog, 1907–'08; Hobart Coll., Bull. 6–2; William Smith Coll., catalog, 1908, Part 2, President's Report, 1907; Wells Coll., catalog, 1907–'08. *Ohio*, Findlay Coll., Bull. 4–1, catalog, 1907–'08; Oberlin Coll., Bull. n. s., 35, Annual Reports, 1906–'07; Western Reserve Univ., Bull. II, 1, Ja., '08, catalog, 1907–'08. *Pennsylvania*, Haverford Coll., catalog, 1907–'08; Swarthmore Coll., catalog, 1907–'08; Univ. of Pennsylvania, Med. Dept., catalog, 1907–'08. *Rhode Island*, Brown Univ., Bull. 4–5, D., '07, catalog, 1907–'08, 4–6, F. '08. *Vermont*, Norwich Univ., Record, n. s., 1, catalog, 1907–'08; Univ. of Vermont, Bull. 5–2, catalog, 1907–'08. *Virginia*, catalog, 1907–'08.

HOSPITALS AND INSTITUTIONS.

Illinois: David Prince Sanitarium, Springfield. *Massachusetts:* 25th Annual Report of the Corporation of the Hospital Cottages for Children, Baldwinsville. *New York:* 17th Annual Report of the Manager of the Rochester State Hospital; 7th Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw. *Pennsylvania:* Annual Report of the Robert Packer Hospital, Sayre, for 1907; 34th Annual Report of the Executive Committee of St. Luke's Hospital, South Bethlehem.

REPRINTS.

Acknowledgment is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. I. A. Abt, Chicago; Lee Maidment Hurd, New York; Edward Martin, Philadelphia; Charles A. Oliver, Philadelphia; B. de F. Sheedy, New York.

BULLETIN

OF THE

American Academy of Medicine.

(Specializing in Medical Sociology.)

VOL. IX. ISSUED JUNE, 1908. No. 3

THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

LEADING ARTICLE.

DIFFICULTIES IN THE WAY OF CORRECT LEGISLATION.[1]

We will be able the better to understand the obstacles in the way of a just medical practice act if we first consider the underlying habits of being that generate these obstacles.

At the top of the list, because it might be made to include the others, is Selfishness. Were legislators and all who appeal to them free from motives of personal benefit, there would be fewer obstacles in the way. A practice act would be needed even then, for there is such a thing as disinterested ignorance or incompetency. A study of existing conditions shows that this personal factor influences, to a large degree, the effort of the individual. For example, should a member of the faculty of a medical school examine a proposed act, the thought would be present: How will this act effect MY college? As he reads he finds that it will compel a lengthening of the term from seven and a half months to eight months. He at once recalls that the present income is hardly able to make ends meet, and he, at once, seeks for reasons to show that this additional time is not necessary to secure a product fit to meet the requirements of the purpose of a medical practice act. His reasoning may be sound, but he is led to it not *pro bono publico*, but from self-interest.

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[1] Essentially as read by invitation before the Medical Jurisprudence Society of Philadelphia, March 16, 1908.

In the second place, there is a feeling of distrust, or of suspicion, that the other fellow will not play fair. This is most markedly shown in the position of the "minority" schools, as they call themselves. It is not confined to them, and it is only necessary to call attention to the fact that in most practice acts members of the faculty of a medical college are not eligible as members of the examining board.

The third state of mind is prejudice. We talk about ecclesiastic bigotry—it is a mild variety when compared with the scientific. A theologic discussion may be punctuated by flying hymn-books, but

> Then Abner Dean of Angel's raised a point of order—when
> A chunk of old red sandstone took him in the abdomen,
> An he smiled a kind of sickly smile, and curled up on the floor,
> And the subsequent proceedings interested him no more.
>
> For, in less time than I write it, every member did engage
> In a warfare with the remnants of pale ozoic age;
> And the way they heaved those fossils in their anger was a sin,
> Till the skull of an old mammoth caved the head of Thompson in.

was written of a scientific society.

The obstacles of this origin are largely from the dominant school, but not exclusively so.

Most, if not all the difficulties in the way spring from one of these conditions or a combination of them. Before attempting to enumerate a few, let us get a definite concept of the intent of a medical practice act. It is a device to safeguard the citizens of a state against incompetent care when they are ill and not in a position to care for themselves. They usually prescribe that the medical adviser must have followed a certain educational process—securing an M.D. degree; passing certain tests—the state examination; and performed certain duties—registering his license. The safety of the citizen is the thing to be considered, and only incidentally the convenience of the physician. The difficulties may be grouped around the three requirements of the law.

1. The educational process. The saner people of a state are of the opinion that a certain educational standing is little

enough to give the people a fair chance. There are classes of people who wish to ply a trade rather than practise a profession and object to such a standing as not necessary for their methods. Some of these are sincere; others are after shekels only. These men present their plea and are aided by an entirely different class of men—at least presumably different. Read the publications of the Council on Education of the American Medical Association; or, better, attend a meeting of the Association of American Medical Colleges, where you can pick up facts that do not find their way into print. To the shame of our profession be it said, the charges are made that many of our colleges assume a virtue they do not possess and strive to make it appear that conditions are complied with, when they are not. Whence much that is unfortunate in the specific statements for educational courses in our medical practice acts is an endeavor to make men honest who ought, from the very nature of their profession, be honorable. This is not my accusation, it is painfully manifest in the publications referred to, and it has met no denial except: "It is the other fellow and not I."

These two classes aid in strengthening a very common mental condition of the non-medical citizen. Erudite senators, learned judges, keen business men, brilliant society leaders, as well as the less intellectual members of the body politic possess in common a belief that associates mystery with disease and that its successful combating does not always require the learning of the schools, nor the application of scientific methods; that some people, or some cults, may, in some undefined and undefinable way, accomplish more than the carefully instructed. Such people not only employ these irregularly prepared, if prepared at all, but also champion them should they apply for legal rights to practise, and at once raise the cry that the medical profession is opposing such action from commercial reasons or because of its well-known bigotry. They seek to exhibit the imperfectly educated as the under dogs in the fight and then secure them their quest from misapplied sympathy.

Hence, it is the part of wisdom to provide broad safeguards that will minify the evil of — Osteopathy, let us say, as it is very much in evidence just now. If we attempt thus to be wise, we will be apt to find jagged reefs on the other side of the channel—the rocks of professional dignity and of prejudice. And this, despite the fact that the law is not for the purpose of upholding the dignity of the profession but to minify the danger to the people from the undignified. Germany is an example of a country with a protected profession; probably as quack-infected a land as you can find.

We find another type of difficulties clustering around the examinations. Here it is that mutual distrust is most marked. The "minority schools" fear to be crowded out. They recognize that they are diminishing and attribute it to wilful professional opposition rather than to an organic evolution. Time will wear away this obstacle, but at the present nothing short of denominational recognition will satisfy them. The omission of therapeutics from the list of subjects for examination will be apt to be fat in the fire rather than a pacific measure. The action of New York is viewed by them as a warning to avoid rather than an example to follow.

It behooves the wise to furnish no ammunition for such opposition, and to devise a plan that will at once include a uniformity of test while it permits them to preserve their separateness.

Then the difficulties regarding the registration feature of the act. Why should not Richard Roe, who, during the past year, obtained a license to practise in New Jersey or New York be privileged to obtain a permit to register on that license in Pennsylvania? Lack of confidence and no lack of prejudice are the chief factors at work. Legislation has something to do with it. The great obstacle to the recognition of the license of another state by New York is a provision in the act not to protect the people but the New York medical schools. This obstacle can be overcome by common standards in the various laws so phrased that it will be easy for the guardian of the people as to medical practisers of any state to understand the standard of the other and determine the equivalent value.

Hence, it seems to me, that any attempt at new legislation should provide: (1) A liberal education standard applicable alike to all who seek a license. The completion of a four years' high school course ought not to be deemed too severe; (2) A common standard for the elementary professional studies. It seems to be fair for the State to say to all, even those whose methods of cure deal exclusively with the imponderables, that you must possess a certain knowledge of anatomy, physiology, chemistry, pathology and the art of searching for the abnormal condition, how little soever you may use it afterward, before you enter upon your final professional course.

(3) The foundation laid, then let the final test include those subjects claimed by each as necessary, only that the same standard be required by each for the same subject. The examination may be conducted by denominational boards if desired, but only of those already tested and found to be fitted in the fundamental studies. Some such scheme as this would be apt to prevent active opposition on the part of the "minority schools," provide better safeguards than any separate act for those who wish to be recognized as practising but a part of medicine. It also would put fewer obstacles in the way of educational progress, so that in the end a board of examiners will be, not because some physicians seek for it, but because an instructed people demands it.

CHARLES McINTIRE.

LESSONS FROM A QUARTER CENTURY OF LEGAL REQUIREMENT OF THE TEACHING OF HYGIENE:

DEMONSTRATION AND PRACTICE MUST SUPPLEMENT PRECEPT; WITH PUPILS OVER TEN ONLY SPECIAL TEACHERS SUCCEED.[1]

HELEN C. PUTNAM, A.B., M.D., Providence, R. I.

Delegate from the American Academy of Medicine, and American Society of Sanitary and Moral Prophylaxis to the Second International Congress on School Hygiene, London, August, 1907.

Three essentials for public school instruction in hygiene are the mandatory law, the method, the teacher.

Between 1882–1901, 46 laws covering practically all our territory, and successively modified as inefficiencies of predecessors suggested, were enacted requiring physiology and hygiene, including temperance, taught to all public school pupils. With this has been evolution of text-books, the method specified by 18 laws, of teachers, and of other than text-book methods.

This 25 years experimentation, valuable in many respects, is just now under critical consideration, with other features of popular education, for the requirements of modern life have outgrown our curricula.

Evolution of text-books

Study of the evolution and status of text-books reveals suggestive facts.

Approximately 90 (excluding revisions) have been published since 1882. The earlier books, chiefly by physicians and general teachers, and for secondary schools, are followed by a larger number whose authors with very few exceptions are specialists in biologic sciences. They exhibit six noteworthy lines of progress.

1. Topics have been simplified until we have 43 text-books for elementary grades, 15 million pupils who go no further in the schools; a few as excellent for their purpose as any high school books for theirs. Twenty-five years ago there were practically none.

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[1] **Read at the Second International Congress on School Hygiene, and published by permission of the Secretary of the Congress.**

2. The average proportion of hygiene is one-third of modern text-books (a little more in elementary grades and less in high school), a very few give more than half their pages to it. The average in 25 books "for high schools" published before 1883 is less than one-twelfth.

3. Illustrative experiments in all grades are very greatly multiplied; and for high schools, since 1897, there have been published 3 books entirely of simple laboratory experiments; and one in which experiments constitute fully one-half the book, forming the basis of its teachings. Even in 1883 a few suspected that to try to teach children science without demonstration results in "a mere mummery of words."

4. Easily observed facts about other objects in animal and vegetable life, and simple principles in physics and chemistry are much more often utilized to make the main subjects clearer, the former specially in elementary grades.

5. Scientific progress is reflected not only in many details of accuracy of statements, but also in added teachings concerning cells, cerebral localization and the nervous system; bacteria, communicable diseases, dust, antiseptics; inspection of schools, water supplies, foods and milk; common intoxicants and patent medicines. A few school books before 1883 urged the dangers of alcoholic drinks, usually employing the confirmed inebriate as an example.

6. There are fewer pathologic details (or they are selected with greater discretion), and more attention to normal states. The idea of a healthy, active, physical life as a basis for success and happiness is kept more in the foreground and made more interesting. That "success depends on health" is fortified in several books by numerous lately discovered facts in school work, social and business life.

This significant fact—good modern school books on physiology and hygiene by specialists in biologic subjects—is accompanied by others equally suggestive. In 25 cities, our largest and most progressive, visited within 20 months, no school board had adopted these modern books in elementary grades (two were thinking of it), although in some high schools departmental instructors were using them; very few were listed among reference books for teachers.[1]

Teachers and text-books

Nineteen-twentieths of our 18 million school children are in elementary grades, only one-twentieth in secondary. The seventeen millions demand our special thought because they represent the poorer population whose environment and individual needs require most knowledge of hygiene; whose votes count most in supporting political measures for sanitary ends; and also for the important reason that, if the right attitude towards hygiene—physical morality— is not cultivated in early years, the problem becomes much more difficult later, too often impossible. In the following discussion, therefore, reference is to elementary grades (children under 14 years) except when otherwise specified.

Where children in the cities visited used a text-book it was 15 or more years old. The more frequent method is for teachers to prepare their own outlines; or for one to be issued from the superintendent's office, the reason given being: "It suits our special needs best." Those preparing these outlines were neither sanitarians, physiologists, biologists, nor special students in these lines, two physicians concerned being none of these, nor adepts in either pedagogy or text-book writing. The resulting class work observed was brief and desultory, unsymmetric, often misleading; unessential details of anatomy were common, while hygiene, the practical application of science to living, was conspicuous by its inaccuracy or its absence. The instruction was verbal, rarely illustrated. In the upper grades particularly it was usually a bore to both pupils and teachers.

More than one instructor said with compunction: "I do this like a parrot. I really know nothing about it except what the books state." That is to say, our text-books are beyond the capacity of the average class teacher. Theoretically all instructors of youth should be able to teach sufficient hygiene. Our quarter century's experience fails to prove that they are; it proves, indeed, that the very great majority have not been.

[1] An English official has published a "free translation!" "They [modern books, are in universal use, *except* in twenty-five American cities."

Better methods than text-books

But the foregoing does not cover all the teaching of hygiene found. Under the names "domestic science," "nature study," (botany, zoology), physical training, medical inspection, in certain cities is work so good that they insistently commend themselves as the really efficient methods.

They have two characteristics in common: 1. They vitalize precepts by demonstration and practice. 2. They are under specially qualified leaders (teachers, supervisors, physicians).

The noteworthy result is that pupils are eager and intent, with marked progress in the use of language, in ability, and in character.

Medical inspection and physical training

Medical inspection instructs indirectly but forcefully by drawing attention of pupils, parents and the public to care of the person, general health and development; to school furnishings, lighting, ventilation and playgrounds; but instructs most efficiently when school nurses are employed. It means much in two of our largest cities where from 50 to 80 thoroughly trained nurses not only attend to minor ailments at the schools, but daily radiate therefrom into homes, showing mothers details of cleaning, feeding, clothing children and of caring for the premises. The immediate result observed is that pupils sent from school by the physician return sooner and in better condition, and that many otherwise unknown wrongs to childhood are reported to proper authorities for correction.

Mothers' or parents' clubs

A valuable supplement to medical inspection, sometimes instituted by citizens co-operating with teachers, is mothers' clubs (or "parents" including fathers). Social devices invite attendance, and the opportunity is seized to discuss under discreet leadership various parental problems: clothing, food, amount of sleep, care of teeth; recreations, children's reading and instruction concerning sex and morality; temperance and cigarettes; communicable diseases. School physicians or others occasionally give talks to children, or illustrated evening lectures at the school-houses to the general public.

The sections of the congress on medical inspection and physical training will discuss this phase of their work. It is only well to say here that a wide divergence in ideals and practice exists, from almost valueless inspection and gymnastics to alert officials who utilize their opportunities for implanting fundamental understanding and habits of health. The best in either however have not yet developed possibilities to the extent desirable. The true value of active games, athletics, dancing, in combating cigarettes, alcoholic drinks, and other evils is still to be demonstrated along with their value in training for citizenship.

Biologic studies, hygiene and universities

The most systematic and thorough teaching of physiology and hygiene is found in classes in domestic science, and in biologic branches ("nature study," botany, zoology). That on many sides independently instruction has begun in the application of biologic science to daily living strongly indicates its essential value.

The great hindrance is that institutions preparing superintendents and principals are too bound by academic traditions, so that these officials, lacking the all-round intelligence which includes natural sciences and their practical applications, fail to supply this want in children's education as rapidly and efficiently as the public demands.

Neither do our colleges and universities encourage instruction in hygiene; only 3 out of 56 require entrance examinations in it. In England one finds, with much satisfaction, that Oxford and Cambridge local examinations include physiology and hygiene, domestic science and nature studies. No other single agency can more effectively stimulate elementary schools to good work.

Nature study and hygiene

A sketch—necessarily very incomplete—of typical good work in nature study (biology, botany, zoology) suggests their possibilities.

These teachers have qualified in biology including related physics, chemistry, etc., with the occasional exception of one without previous preparation, selected because of marked aptitude, and working under the supervision of a specialist. It is possible to develop one such from the staff of nearly every elementary school *provided the supervisor of science is a competent official.*

Two schools with children from 10 to 14 years of age studied household insect pests. Flies were found much more interesting and injurious than they had known. They collected eggs, watched them hatch into larvae, saw the fly come out of the pupa case. They mounted between plates of glass egg, larva, puparium, male and female flies. They thus learn the life story of the fly; where it lays its eggs, what flies live on, how they carry filth and disease from sputum and other discharges to the next object visited, which may be one's face or food. The children, almost of their own initiative, started a crusade against uncovered manure heaps, foul garbage pails, and other common uncleanliness; they learn to believe in screens and covered food supplies.

The life story of mosquitoes, from the "raft" of 180 eggs in a waste water tub, was still more fascinating. That one insect, according to the pupils' own facts and computations, may be responsible for some millions of others within two months aroused special interest in the fate of a cupful of "wrigglers" poured into an aquarium of little fish. Committees organized for their various neighborhoods, hunted out stagnant water and applied the kerosene treatment with zest. The anopheles was found; and flies, mosquitoes, bedbugs, fleas, rats, and other animals as carriers of germ and parasitic diseases was a live topic.

Similarly the life stories and natural enemies of other vermin were traced; roaches, moths, buffalo bugs, meal worms. The cost of extra labor and of damage to clothes and food was figured.

They studied life stories of insects destructive of vegetable life. Nearly one billion dollars annually are lost by these pests in the United States and even more by fungous diseases. Popular information in these lines alone would return the cost of instruction many times over. Cats as destroyers of birds (nature's agents in controlling insects) and as distributors of fleas were losing popularity as pets in one neighborhood.

They studied the life stories of plants of economic value including some desirable to introduce as food, and made simple tests for their nutritional value. We use but about 2 per cent. of the 1000 edible plants known.

One pressing problem is solved by these biologists partly in the work already outlined, but better in other laboratory work that time does not permit describing: how schools can wisely teach the transmission of life and sacredness of parenthood, which few parents undertake until too late, which many cannot teach rightly, which many never teach at all, neglecting this one of the two vital concerns of living, with so many tragic results to the individual and to society.

Domestic science and contending influences

Not only the meaning and value of the gift of life, but the art of making a home—the unit of society—until very recently has been omitted from popular education. Under the name "domestic science" indispensable knowledge of hygiene is given.

Two contending influences have appeared wherever introduced: on one hand short-sighted parents wishing immediate filial service after their own ignorant standards, and equally short-sighted school men claiming that a smattering of indifferent cookery and manual work is the basis of better homes to be encouraged by schools; on the other hand, the far-seeing who recognize this opportunity of introducing into common life appreciation of fundamental elementary science and its definite applications that will raise home-making and civilization to a higher plane.

These two attitudes result in practical differences in classes, convincing intelligent observers that even good manual work is improbable without discriminating scientific preparation of teachers in physics, chemistry, and specially biology; not only for information but for the habits of accuracy in observation, in reasoning, in execution, as well as for the superior resourcefulness and personality going with these attainments.

Special teachers

Under such one sees cleanliness of utensils, food, room and person consistently and understandingly maintained. One must observe several such instructors to appreciate where teaching household sanitation and hygiene should begin when homes do not supplement.

After two years intelligent, painstaking observance of scientific laws one finds a pretty neatness, accuracy and mental awakening replacing the former slovenliness and vacant expression. A few of the best schools include boys in these classes, for whom the science and economics of hygiene and sanitation are as essential as for girls.

Typical good courses personally examined in over 30 cities demonstrate that hygiene and sanitation can be as definitely taught, as accurately practised, as intelligently understood by boys and girls from 10 to 14 years of age as can arithmetic—certainly they are of not less value in the future; that it is invariably accomplished by special teachers capable of simplifying fundamental biology, chemistry and physics for easy comprehension; and that they work under expert supervision.

Crammed teachers

The classes of superficially crammed teachers and supervisors, if time permitted detailed comparisons, would likewise demonstrate that to maintain domestic science under such guidance is a waste of public funds and discrediting of a most valuable opportunity.

Misstatements of facts, dirty finger nails and use of hands, carelessness of dish towels, of flies and dust, of garbage pails and cupboards, of proper serving and eating, confusion and bustle are common failings. The contrast between the kitchens and classes of consistently scientific teachers and those where "manual training" ideas predominate suggests that between the sickroom under an anxious mother and under a trained nurse. One has time for all essentials in orderly sequence; the other urges want of time as excuse for evident shortcomings, while of many she is unconscious.

It seems wilful shutting of eyes to obvious facts in the evolution of domestic work and of women's tendencies since elementary education has been required of her to maintain that routine housework, monotonous because of familiarity, isolation, and lack (often) of the stimuli of appreciation, recompense, recreations and standards, should be more attractive than shop and factory and office. There is no endeavor calling for higher ability than the making of a home. Since even the humblest needs intelligence, schools fulfil their mission only when they train future home-makers, both boys and girls, to understand the simple laws of science that raise daily living and "drudgery" into a conscious part of the great scheme of the universe.

Correlations

This excellent teaching of hygiene through school nurses, parents' clubs, physical training, nature studies, domestic science, is still heavily discounted by its incoördination; numerous hiatuses, overlappings, even inconsistencies resulting. Neither is it well correlated with other branches of instruction, which have the same fault too often among themselves.

Correlation of subjects is the secret of having abundant time for all essentials of education. Many teachers find that arithmetic is first learned in laying out a school garden and in running it; or in the laboratory or school kitchen. Among many children's written work I have found by far the best English, the most logical thought, and strongest grasp of subject in 15 papers by children from 13 to 15 on "Reproduction in plants and animals," all based on original observation. Teachers find that the significance of art first appears to children when planning in detail and furnishing a home for a family that is to live healthfully and happily. Such correlation implies an expert supervisor of science instruction with comprehensive understanding of social problems and needs.

Moral instruction

Another coördination is with moral instruction. Several biologists specially mention the alteration in behavior of many children from 8 to 14 years of age after 1, 2, or 3 years care of delicate growing plants and animals while making their systematic observations on the essential functions, respiration, circulation, nutrition, elimination, reproduction.

Briefly summed: there grew a greater thoughtfulness and gentleness; the faces of unclean-minded children cleared into frank-eyed interest, and physical habits improved. Accuracy of seeing and speaking, which is truthfulness, distinctly grew, with a sense of protection and justice for the weaker, and a judgment as to what is worth while and what is not.

Certainly it would seem as if no words could have the force of this actual study in impressionable years of the Maker's laws of life and its preservation. This method proves the value of temperance more efficiently than statements that children find so difficult to reconcile with observations in their own environments. It is constructive teaching of the elements of normal living as a basis for the negative "Thou shalt not."

Thoughtful people must recognize in schools the mental starvation of children from 11 to 15 whose infancy is prolonged with non-essential superficialities when their whole being is demanding knowledge of vital truths; and likewise must recognize in society the evils resulting even in youth from ignorance and misinformation often worse than ignorance.

Our social ailments, whether due to love of money, of conquest, of various vices, resulting in ill health, degeneracies, poverty, criminality, can be remedied only by adding a higher ideal to that now cultivated which is acquisitive and egoistic (the perfection of the individual); can be remedied only when the plastic childish character, before ineffaceably stamped with such ever-present influences, is moulded by competent teachers through knowledge of the wonderful phenomena of common life and their eternal laws which are the basis of hygiene (physical morality) and of all morality.

One must "learn what is true in order to do what is right."

WHAT ARE THE PRINCIPLES UNDERLYING, AND WHAT PROVISIONS SHOULD BE INCLUDED IN A MEDICAL PRACTICE ACT?[1]

The session was called to order by the president at 8.00 P.M., who announced the subject of the evening, and placed the conference under the direction of Dr. Alexander R. Craig, of Philadelphia, the assistant secretary of the Academy, and secretary of the Committee on Public Policy and Legislation of the Medical Society of the State of Pennsylvania, which has under consideration the draft of a proposed new medical practice act for Pennsylvania.

Dr. Alexander R. Craig, of Philadelphia, in opening the conference:

The law has a right to define the minimum of qualification that as a protection for the public it is willing to accept from those who present themselves as physicians. Our legislatures should determine the least qualification that one may have and still be a safe practitioner of medicine. It seems to me that heretofore medical laws and acts governing the qualification for license to practise medicine have been framed with the idea of raising the standard of the profession. This is an excellent and very necessary move, but it is probably asking too much of the law to undertake this advancement of standard. The profession of medicine should accomplish this because of the pride we have in our calling, and should not be content to allow our ideals to be measured by that minimum of qualification which the law defines as necessary for the protection of the public.

With regard to reciprocity, it is not very probable that the various states will arrive at the same conclusion in describing the qualifications to be asked for license to practise, but as justification for the law is to be found in the protection of the public, it would seem that after the applicant has proved a reasonable ability in his profession, he should be accepted in any community as a physician. If a physician has practised in Ohio in a manner acceptable to that commonwealth and without detriment to the community in which he has resided, it would seem that the reasonable probabilities are that he would be a safe practitioner of medicine no matter where he would reside, so that if he can substantiate his position in one community, he should be accorded the privilege to practise in another, no matter what the standard of qualification outlined for the beginner in the practice of medicine is in that community.

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[1] An informal conference held at the special conversational meeting at Pittsburg, January 2, 1908.

How he is to evidence the fact that he is not a menace to the public is a difficult question. At the present time there seems to be no more satisfactory method than to ask the applicant to pass an examination, but examinations are extremely faulty as measures of the amount of knowledge that a man has, and it would seem that in a degree at least the applicant's fitness to practise medicine might be sustained by obtaining the opinion of those residing in the community in which he has heretofore lived, as by action of his county medical society taken in open session.

Another subject for discussion is, Should the board of examiners be single or should it be multiple? I feel that the single board is the fairest because when we have a number of boards, of necessity we have a number of standards of qualification, and the number must be multiplied indefinitely in order to provide for the recognition of the various so-called new methods of practise arising from time to time.

I think then that if we will bear in mind some of these points and try to discuss the subject from their heads, we will really accomplish more than if we talk upon the general subject of the evening.

I want to call attention to the subject, What Are the Principles Underlying, and What Are the Provisions that Should be Included in a Medical Practice Act? and to express the hope that the considerations this evening shall be of service to a committee of the Academy who will endeavor to frame a law that might possibly be advantageously made a general law for the various states.

Dr. Charles McIntire, Easton, Pa.:

My attention was called to medical practice acts first, by the earliest attempt in our own State of Pennsylvania to secure medical legislation, secondly, because the Bulletin of the American Academy of Medicine was made the official organ of the Confederation of Medical Examining Boards, so, when at the meeting of the Academy at Atlantic City I was made chairman of a committee to draft a Medical Practice Act, I did not object to it as I would otherwise have done. During the year I have devoted considerable attention to the subject, more particularly perhaps to the present condition in Pennsylvania. In order to secure the opinion of those of different medical belief, our county medical society appointed a committee, offering to meet a similar committee from the local homeopathic society to discuss a single or multiple board bill. They accepted our invitation and appointed a strong committee. A late president of their state society served as one of the members of their committee. We learned from them that no single board bill would be acceptable to them, no matter what provisions were made, because it was necessary for them to preserve their individuality, and that they would insist upon separate boards. This conference enables us to see why these smaller schools are objecting to a single practice act. Perhaps some of the friends from New York would be able to tell how they secured their single board at the last legislature. Our friends of this committee meeting the County Medical Society Committee said that one result of this single board bill in New York was a great diminution in the number of students in the Homeopathic Medical School in New York City for this year. Evidently if they accepted anything of this kind it would mean annihilation of their school. Whatever may be our individual opinion about separate schools of medicine, we must concede to those who support them, the liberty of their own conclusions, and we ought not to appear to do anything that will not safeguard their legal rights. Therefore, it seems to me that the various provisions in a medical practice act should be made to show that every effort was made to protect the interests of the minority, to give them almost undue advantage if necessary, in order that their claimed privileges may be protected and that there should be no opportunity given to assert that the "dominant school" was attempting to crowd them out. I feel, however, in the progress of medical science that in the course of a few years these various matters will be matters of history only.

The second thing to be considered is a careful definition of what the practice of medicine really consists in. The New York definition might be satisfactory.

That or some similar definition which will carefully define what it is to practise medicine can relieve the law of many chances for evasion.

Another thing of great importance is that the medical board should have control not only of the licensing of physicians but also they should have the authority—rather it should be laid upon them as a duty that they must search out and bring the law to bear upon those who are practising illegally. The law now imposes additional burdens upon the honest student of medicine before he enters upon practice, while it lets the illegal practitioner to do pretty much as he pleases, because searching out for illegal practitioners rests with the general public, usually with the county medical societies and upon them rests the odium of bringing to the bar of justice those who are practising illegally.

One other point, Dr. Sharpless, secretary of the State Board of Washington, in an article on their State Board in the November number of *Northwest Medicine*, takes the ground that the medical board has no right to determine the standing of a college or the college qualifications of the applicant for licensure, but that the board should depend upon the examination only to determine whether the applicant be fitted to practise. It seems to me that the duty of the board to examine the college course and to accept the diploma for what it really means and in that way it will obtain information for its guidance which cannot be obtained by the ordinary written examination which at present seems to be the only one possible for state boards to exercise.

Dr. Joseph H. Raymond, Brooklyn, N. Y.:

I should like to say a word in favor of divided examinations. Any medical practice act which does not give medical students, at the end of the second year, opportunity to pass an examination in subjects that are, as examination questions are now framed, largely matters of memory and which underlie the practice of medicine, is defective. In New York the division of examinations has been fruitful of most excellent results. Before the provision existed in the law, medical students who had abundant opportunities for observing clinical work in hospitals not immediately in contiguity with the medical schools absented themselves from these clinics and when questioned concerning this, they said they could not afford to run the risk of failing in their final examinations for the state license, that the amount of money they had saved was just sufficient to carry them through and that they could not allow their memories to become rusty on anatomy and chemistry. Although abundant opportunity was given these men for clinical work they preferred to stay at home and keep their minds fresh upon these so-called elementary or fundamental branches. Since the divided examinations have been held I have observed that all this has been done away with; the students pass off anatomy and chemistry and have their minds free for the practical work. I think this is one great step in advance, and I was surprised to hear the writer of one of the papers condemn it upon the ground that a man should have when he goes out in practice a thorough knowledge of these elementary subjects. If the state boards of medical examiners when they examine at the end of the fourth year examined only on such points in anatomy and chemistry as had a practical application, this criticism might be a just one, but not as examinations are now conducted.

Something has been said about the new New York State law. I cannot answer the question which Dr. McIntire asked concerning the homeopathic schools, but I am not proud of our law. If I understand the object of the inauguration of state medical boards it was to protect the people against incompetent practitioners of medicine, yet the New York law excludes an examination in therapeutics and materia medica. It makes no difference whether a man thinks a dose of morphia is ¼ of a grain or 20 grains. He will never be asked his treatment of typhoid fever or pneumonia or any similar question. These have been eliminated in order to enable the legislature to pass a one board bill, a unification act. You may know that the osteopaths have been endeavoring to have a board of medical examiners in the State of New York. We had until this last year a Regular board, a Homeopathic and an Eclectic. The osteopaths came before the legislature in great force and said if there could be other boards, why could there not be an osteopathic board, and really there was no reason why there should not be, so in order to have a single board these concessions were made. I think it is a mistake to eliminate such important subjects as practice of medicine, therapeutics and materia medica from the licensing examination and I doubt whether our compromise is one that is going to add much to the reputation of the Empire State. It is said that these defects can be corrected, but we know how difficult it is to amend such a law. I hope that as the result of these deliberations no law will be framed in other states that will eliminate such important subjects as practice of medicine, therapeutics and materia medica.

Dr. James W. Holland, Philadelphia:

I am surprised to find myself diametrically opposed to Dr. Raymond. I believe that the regular profession in all the states would like to have but one examining board on all branches but that a compromise is necessary in view of the different schools of practice. Let us imagine a student coming before that board and passing an examination in physiology, anatomy, chemistry, hygiene, pathology, surgery, obstetrics, gynecology and diagnosis. Any man who can pass a fair and honest examination in those branches must necessarily have studied some system of therapeutics, because the only reason in the minds of many men that they have for studying physical diagnosis and pathology, surgery, etc., is that they may apply some system of therapeutics based upon these studies. They do not need to be urged in that direction. Many of them would if they could get the art of curing and nothing else. We may rest assured that any man who has qualified himself to a high standard in these branches will know what to do in disease according to a certain school of medicine. I for one very much favor a single board if we can get it in Pennsylvania. If we cannot get a single board in all branches let us have a single board in all except materia medica, therapeutics and the practice of medicine. Let them be recognized as fitted by diploma only in those branches which they say are peculiar to their previous studies. They have no peculiar diagnosis, no peculiar gynecology, obstetrics, etc. I remember years ago when examining boards were first organized that it was said that the more highly a medical man was educated the less he would be inclined to practise medicine according to a particular creed. The criticism made of some of our state board examiners is that homeopaths rarely fail, and the eclectics never. The schools teaching these applicants come forward and say that the high percentage of successful examinations shows what fine schools the homeopaths have and what excellent teaching the eclectics give. The members of the state board of the regular school, however, say that the examiners of the two schools referred to are very easy in their standards, and that when a man fails to pass before the regular board he can easily make a trial and pass before the eclectic board. Now we can come forward and say let us have an examination in those branches in which all should be alike, with the same questions, the same committee to determine the rank, and to have the examination so arranged that the examiner will not know what particular school the man comes from. It seems to me that this board ought to be appointed by the governor, and that by thus placing the responsibility upon one person the best appointees are most likely to be secured.

Another question is with regard to the amount of power which shall be given these boards in determining the reputability of the medical school. In a paper presented here which I did not hear read, the position is taken that the determination of reputability would give to the examining board the right to say whether or not the teachers in a medical school were qualified to teach, and whether the curriculum of the school was adequate to instruct. Are we to give such an enormous amount of power to any single person or group of persons not educators and not connected with the institution referred to, to dictate to all the schools as to their teaching body, to pick out a certain man and say he is not fitted to teach, or that the curriculum is not a proper one? I think that this is a power which no institution would be willing to give to anybody outside of itself, nor would it be wise to do so. Examining boards don't know everything, and are not always fitted for such responsibilities. Even college professors don't know everything, though they are experts in their special line. Such power is vested in legally incorporated boards of trustees and should be carefully given by the state.

Dr. Thomas D. Davis, Pittsburg:

Possibly it will bring the subject more clearly before us if we consider the conditions that led to the establishment of examining boards.

When I came into this state thirty years ago there was no law whatever concerning the practice of medicine; any one could put out his sign and be a practitioner of medicine. The only possible way in which he might have difficulty was that if he sued for a bill he might be compelled to show whether he had any right to charge that bill for medical service.

The common practice among medical colleges was to give a course of lectures. Exactly the same course was repeated the next year. Many students "reading medicine" with their "preceptor," as he was called, and getting a pretty fair smattering of knowledge, heard one course of lectures and then started out to practise until they had made enough money to attend a second course of lectures when they would get their diploma. Many of these men rapidly acquired practice and never returned to receive their diploma, so that the country was full of men who had taken but one course of lectures. In 1881 we had a law passed requiring every practitioner to have his diploma registered. In order to get that law passed we had to agree that any person who had been in continuous practice for ten years in lieu of a diploma could register as a qualified doctor and under that provision many very objectionable and ignorant men became legal doctors. Right in our own city we had a horse-shoer, a photographer, and a barber registered as having been in practice for ten years continuously, simply because they had peddled some nostrums. After this law was enacted, requiring men to register their diplomas, there immediately started up a number of diploma mills in the state. Colleges that had their charters, commenced to issue diplomas after a five or six weeks' course. Even worse, for $25 a diploma could be bought from these institutions without attending them at all. Unfortunately the better institutions, many of them not being endowed, made their course as easy as possible in order to crowd their halls with students because, they said, "If we make our course too hard, the students will go to another college." If we have a three-year course and require them to have special qualifications, we will lose many students upon whose tuition fees our college depends. This led to the establishing of the state examining boards.

We worked four years for a licensing board and finally got it, not as we wanted it, and I am afraid, gentlemen, we never can get exactly what is right and fair. It is difficult to convince legislators that you have not some personal selfish object to attain.

When this board was established the idea was not to license only the very best qualified men, but that we should have a fair minimum requirement. The early examination questions will show that this was the plan upon which examinations were held. Now the examinations require the very highest learning. I cannot find that they have any right to say that a man must spend four years in a medical college. The boards were established to find out whether he knew enough to practise medicine and not how long it took him to get his knowledge. If a man has gone one year to college, and has the brains, the ability and the opportunity to equal the man who has gone four years, by what right can it be said that he shall not practise? That a man must go four years to college has been read into the law by the state examining boards. I think the boards should pass upon the qualifications of men to practise medicine and license those who are prepared to do so.

I might say incidentally in regard to reciprocity that my own son has gone from here to Florida. He took the state board examination there and sent the papers back to me. If he could not have passed that examination he would not be fit to practise medicine. Every question was practical and thoroughly good. I think I could have passed with a pretty high percentage myself. They were questions such as the busy practitioner is constantly coming in contact with. If such examinations and such questions were used by all the boards throughout this country we would have reciprocity at once. These practical questions are exactly what should be asked and prove far better a man's ability to practise medicine successfully than the erudite and scholastic questions of some boards.

Dr. Seneca Egbert, Philadelphia:

It was my privilege last year to go to Harrisburg several times to endeavor to have a new bill passed. As Dr. Davis has said, the board has read into the present law that which it has no right to do. For many years I have fought for the privilege of giving the man who has had four years of college and not less than a minimum of 960 hours of biological or other pre-medical work, advanced standing in our medical school. I have had much opposition. I can say that only one man taken into our school under those conditions has failed to make good before the state board, and that one only temporarily on account of illness. Every such man has shown that he had the ability to make up for any time granted to him. Last winter, when this privilege was before the committee which had the preparation of the bill for Pennsylvania, in charge, it was wiped out largely because New Jersey had taken the stand that men who had not had four years in a medical school, no matter what the school nor how good a preliminary education the men had had, were not to be admitted to the state examination for license.

I am in favor of the divided examinations because the kind of questions asked by the boards in anatomy, chemistry, pathology and hygiene, which are the branches examined in at the end of the second year, are such that it is foolish to ask a man to remember them for two years when he is busy with the practical application of his work in the medical school. Another reason for the divided examination is that if a man is illiterate it is shown at this time and no college will thereafter continue such a man in his work until he has removed his disability and proved his fitness to go ahead.

After much study of the subject I am in favor of the one board bill, but I do not believe we can get it through any legislature unless we make the compromise regarding practice of medicine, therapeutics and materia medica. As has been said, if a candidate has a good training in the other subjects it is not reasonable to suppose that he will not have enough knowledge of therapeutics, and materia medica to go out and practice.

I think we should be very careful in formulating any bill that the dignity of the profession should be upheld. Our bill should make it plain that a man going from a locality where he is known as a qualified and competent physician should be most welcome in another community, even though it be in a different state. We should also try to convince the legislators that the law is not for the benefit of the profession but for that of the public, and we, ourselves, must stick close to that idea. It is true that these medical laws have improved medical education, but nevertheless the only valid reason for their existence is that they conserve the health and safety of the public.

State boards have nothing to do with medical schools. They do have to do with the so-called product of medical curricula. It does take a certain amount of time to assimilate what is taught in the modern medical school, and a man has to be unusually bright or well educated who can do it in less than four years. On the other hand, medical students get a notion that they are disgraced if they do not go through the school and graduate in four years. I tell some men that it would be better if they would take five years, for they cannot assimilate their studies in the time others do. I believe we are making a mistake when we put time limits upon our colleges, for I believe they militate against the best interests of the profession.

Dr. John B. McAlister, Harrisburg:

This matter is a practical one and must be looked at also from the standpoint of the laymen. We are disposed when discussing medical laws to discuss a perfect law, a law as we should like to have it on our statute books. The medical profession is better able to judge what is best in the way of medical law than the laymen, but the laymen does not look at it from our standpoint. I believe we could have in Pennsylvania any bill passed, did we but have a united profession back of us. The legislature is willing to give the profession what it wants if it is unanimous. If certain schools of medicine oppose a bill that the "dominant school" requests, the legislature feels that these certain schools are being persecuted. That it is the old fights of the regular against everybody else. The difficulty is to draft a one board bill that all schools of practice will endorse. I wish the gentlemen here from New York would tell us how they secured a one board bill in New York State. We must remember that the average legislator is in public life as a politician, or probably has political ambitions and a constituency which is very energetic in asking what it wants. We must remember also, that to pass a medical law, we must do it by practical politics. I am very much in favor of the one board bill and I am favorable to accomplishing that by almost any dignified and reputable means. One thing necessary to specify in that bill is that no one school of practice shall dominate the board. That neglect hurt us a very great deal last winter in the legislature. The Bowman Bill left the appointment of the board to the Governor, without specifying schools of practice to be represented, and the legislature almost unanimously regarded that as an indication that we wanted to dominate the board. It is necessary that we mention in a bill that no school shall dominate that board. We must look at the matter somewhat from the laymen's point of view and remember that the average legislator is usually looking for the snake in the woodpile.

Dr. Edward B. Heckel, Pittsburg:

If we recall our college course we shall remember that on a few occasions we saw young men who instead of devoting four years to college went through in three. In medicine, however, it seems that everything must be measured out by a yard stick.

The board question is one of vital importance and our board as at present constituted is decidedly defective. A concrete example is the case of a young man who graduated in medicine some years ago who was possessed of considerable common sense but very little learning, especially regarding his preliminary training. It is Schopenhauer, I think, who says that common sense will take the place of education, but that education will never take the place of common sense. This young fellow was possessed of considerable sense, however. He went before the board and failed. He went a second time and failed again. After that he went to West Virginia and passed. He didn't like the state and came back to Pennsylvania and passed the Eclectic Board. That young man to-day has the same right to practise medicine in the Commonwealth of Pennsylvania as any of us and yet he failed on several occasions before the regular board. The ideal condition without doubt is to have a single board and whether or not we shall have it depends largely upon what we who are interested in medical education think and do. The solution of the whole problem is for the regular schools which are established for the teaching of medicine as a science, irrespective of any isms and school, to take a broad vew of the subject of medicine and take in such subjects as homeopathy, etc. If homeopathy has any virtue, establish a chair and teach homeopathy. If there is anything of merit in osteopathy, establish a chair and teach osteopathy. We could then go before the legislature and secure what we ask for. Then when a young man comes before the State Board and wants to be examined in therapeutics according to homeopathy, let him be so examined, and mark his paper, homeopathic therapeutics. Let the same be done in regard to osteopathy. That would give us a class of physicians who would be competent and we would be protecting the public. Men would go out to practise medicine who had had sufficient education in the fundamental branches to enable them to make their own choice. It matters little how one cures a patient, so long as we take care of him. All know that the vast majority of diseases have a tendency to get well and that all that is required is to take care of the patient.

Another thing of importance is that we should have a definition of the practice of medicine. This definition should be comprehensive and we should have a law sufficiently broad to cover it.

If I were the leading spirit in a medical school I should insist upon the establishment of chairs of homeopathy and osteopathy and give the students the opportunity to attend these lectures or the regular ones.

Dr. Lee Smith, Buffalo, N. Y.:

In the State of New York I think our medical practce act is as much the result of the work of Dr. Andrew H. Draper as Commissioner of Education, as of any other one cause. The doctor is a man of great ability and forcefulness. He felt that there were certain scientific elements in the practice of medicine that all recognized. The legislators got tired of listening to requests from various organizations. They were worried with the continual applications from osteopaths, Christian Scientists, etc., for recognition on boards and they were equally worried with the determined opposition of the medical profession to granting them any such board of examiners. The result was that as a compromise act they cut out therapeutics, practice of medicine and materia medica and while no promise was made of how the board should be constituted, yet they took the men from the regular school, the homeopathic and the eclectic boards who had proven themselves to be most fitted for the position. The charge of the board of examiners is vested in the Regents of the State of New York. Pennsylvania has nothing that would fill exactly the conditions present. The regents specify exactly what the preliminary requirements shall be and see they are fulfilled. They also have a system of regulation of the curriculum of the colleges and see that they are kept within certain reasonable lines of efficiency. In that respect I take it that they require the minimum qualifications in these different branches and the system works well. The investigations are made by paid members of the department of education and are thoroughly done. The medical practice act works well. It has defined the practice of medicine. There have been hundreds of indictments and commitments and the illegal practice of medicine has been practically stopped in the State of New York. There are some cases which are on the border line, but practically illegal practice is wiped out. The board consists of nine members, and it would be impossible for me to tell you to what particular tenet or medical faith any one of those members adhere. They work with the greatest agreement.

Of course, as has been said here to-day, medical examining boards exist for the purpose of preventing any one practising medicine without a minimum of knowledge. That is practically so. They also exist for the purpose of preventing medical colleges being dominated by faddists. Sometimes a strong man gets into a college and he advocates the teaching by that college of material detrimental to it. The board in a measure regulates these things. An answer to a question reveals the education and ability of the individual making it. It may not agree exactly with the accepted answer by reference to the authorities in the books, yet may show a medical education and a knowledge of the art of medicine that makes that man a safe practitioner, and he should be given a percentage for it. A man may entirely misconstrue what a question is intended to ask, and yet give such an answer that no man would be justified in giving him anything but a passing mark at least.

I think the Medical Practice Act of New York with the requirement for the examination of students at the end of the second year works well because one-half that is taught in anatomy, physiology and chemistry must be forgotten. Every man who practises medicine knows that there is an everlasting lot of detail and that the first thing that happens is, as with a pail of water, if you throw something into it, something must come out; and a man's head will hold only about so much. It is a great advantage to let a man pass an examination in these preliminary topics and get rid of them. The essentials of all those sciences will stick. Everything that is of any practical use will stay. What we use we keep, and what we don't use is atrophied. It is the same with our minds as with our members.

Dr. Murray Galt Motter, Washington, D. C.:

It seems to me that there should be some way of constituting a board of state medical examiners which should in the first place eliminate politics. It should in the second place provide that state examiners shall have special qualification for their duty as examiners. I think I heartily agree with Dr. Holland that there should be one board and that the subjects of practice of medicine, materia medica and therapeutics should be eliminated. Until these subjects are eliminated from board examinations we cannot have the united profession to which Dr. McAlister alludes and sectarianism will not be wiped out. As a matter of fact, we can only examine upon the scientific side of medicine, not upon the art of medicine. Therapeutics is essentially an art, not a science. Spencer, I think, said that every science is evolved out of an art. The science of pharmacology is evolving out of the art of therapeutics. Some of these days we may be able to examine everybody, no matter what his practice may be, upon pharmacology. I think we have not yet arrived at that time. If we eliminate materia medica and therapeutics we might as well eliminate practice, because, after we have had anatomy, chemistry, physiology, pharmacology and diagnosis, practice is simply the application of these. Materia medica in these days has, it seems to me, a very small place in the medical curriculum, and as I read the papers this is the opinion also of specialists qualified to speak on the subject.

I was interested, in hearing the remarks with reference to the divided examination, to learn that the gentlemen based their arguments upon the character of the State Board questions. I started, several years ago, to make a collection of State Board questions in branches of physiology and chemistry, but became disheartened within three months. Many of the questions asked by a majority of the State Boards, especially upon chemistry, are simply nonsensical. I think inquiry will show that a good many members of the boards think exactly the same, but they are in an embarrassing position for they cannot well reject them. Often the answers to these technical questions would give no idea at all of a man's knowledge of physiologic chemistry or his ability to apply it in practice. Last May, in his paper before the Association of American Medical Colleges, Dr. Means, of Ohio, chairman of the Judicial Council, presented the question of the divided examination most plausibly but, in the discussion which followed and in part of Dr. Means' paper itself, as well as in the discussion which we have had here this evening, the argument in favor of it was that the students pass better examinations. Now, if the medical schools are going to teach a man simply to pass an examination, I think we had better give it up. Under present conditions the schools, as has been correctly stated, must prepare their students to pass State Board examinations, but they must do more than this and we must work to have the state examination mean more than it does. The fact that state examinations are very unsatisfactory preliminary tests has been emphasized by more than one State Board member. This was brought out most forcibly at Atlantic City and in the preceding meeting at Boston. If at the end of the second year the fundamental sciences of anatomy, chemistry and physiology are to be entirely dropped, "got rid of," why, I must ask, do we teach them at all? I grant you that, as these branches are taught in some schools they might well be eliminated from the curriculum, but my plea is that they should be taught an entirely different way. I think that chemistry, as ordinarily taught in the medical school, has no place there; it should be taught there only as applied to medicine. Elementary chemistry, whether inorganic or organic, should be demanded of the matriculant before he enters the medical school. The ideal condition would certainly be that the law should satisfy itself that the candidate is a safe man to practise medicine, and leave all consideration of what subjects he should be examined in, all consideration as to the length of time he has taken to prepare himself, out of the question. If he is prepared he is prepared, but when properly prepared he will know his fundamental sciences, not merely for two years but, for so long as they remain the basis of his practice.

Regarding the question of reciprocity, it would be well if a law were framed in such manner that there would be no difficulty about licensing a man who has qualified by years of practice in another state, and who is reputable and stands well with his fellow medical men. I think in some states the law is sufficiently elastic to permit this. I know it is, or was, in Maryland, and, if I am not greatly mistaken, it is the case in Massachusetts and in Colorado.

Regarding sectarianism in medicine. Some one has investigated the question and found that there are very few who practise strictly according to the teaching of Hahnemann. I know little about the eclectics, but it is with the members of the Hahnemann school that we have principally to fight these battles. As one gentleman has remarked the name, homeopathic, or osteopathic, is, frequently, simply a trade-mark, purely a commercial thing. There is a large number of homeopaths, and I think there are some eclectics, who are perfectly willing to practise the science of medicine and do not care especially to be labeled according to their particular school.

Dr. Seneca Egbert, Philadelphia:

I agree with Dr. McAlister that if we want to get a bill through we have got to play politics. One of the things that we had to work the hardest against last year was the apathy of a large portion of the profession in the state. We have an opportunity now in Pennsylvania, if a bill were properly formulated and submitted in advance to the various county societies, of having the State Society ratify the bill at its annual meeting in September. Just about that time the candidates for the new legislature will be in the field and it will be comparatively easy for the various county societies to have the candidates pledge support to our bill, provided the State Society has endorsed it and provided that we are fair to the other schools in the sense of giving them due recognition.

Dr. Motter has spoken of the methods of teaching physiology, chemistry and hygiene, but so long as state boards ask the kind of questions they do we must in our schools pay some attention to such questioning and teach accordingly. I should much rather teach my men what I know about hygiene without any thought of the State Board, but we all have the State Board continually before us as a factor to be considered. Regarding the quality of the state examining board, I would suggest that when a man is appointed by the Governor it might be well to have him examined by a committee of the State Society to see whether or not he is qualified to be an examiner.

I also think that there should be enough elasticity in the law of any state and in the minds of its examining board so that a man who has practised for years in another state and is in good repute there might be examined nominally or practically, but briefly, and not subjected to the written tests of several days' duration which are properly required of recent graduates. These matters are of such importance that I think this Academy and other professional bodies should strive for a more satisfactory law than we have at the present time.

Dr. Joseph H. Raymond, Brooklyn, N. Y.:

How would it do to have the members of the state board examined by a committee from the medical colleges?

In regard to giving credit for advanced standing, we in New York have come to no decision, except that the matter shall be left to the regents to decide in individual cases. The committee attempted, in consultation with the committee appointed by the Commissioner of Education made up of representatives of academic institutions and of the medical profession, to formulate some rules which could be submitted to the academic institutions whereby certain students could be admitted to advanced standing, but up to the present time they have not been able to formulate an acceptable plan. The matter has been left to the Board of Regents to determine the question in individual cases.

In regard to the introduction of osteopathic chairs in medical colleges, I should like to ask the gentleman favoring this, whether he has ever seen a catalog of an osteopathic college? These schools have chairs of osteopathic obstetrics, osteopathic surgery, osteopathic gynecology and so on through the list, and in one of these catalogs it is distinctly stated that "anatomy, physiology, pathology, histology and chemistry are all presented to the student from the osteopathic standpoint." So that one chair of osteopathy would not fill the bill. There would have to be such a chair in every department.

Dr. Charles McIntire:

One of the things I promised to bring before the conference to-night I have neglected to do and while we cannot discuss it, I may mention it. Most of you have received a communication from a committee of the Section on Ophthalmology of the American Medical Association regarding the question of whether opticians should receive a special license, and whether or not there is some plan with which we can coöperate.

In connection with that I should like to mention the subject in regard to examinations at the end of the second year which has been spoken of. If these examinations are desirable, could not there be given a limited license to practise certain parts of medicine, or some provision of law which would be sufficiently broad to include those people who do not want to practise medicine in its entirety?

Dr. Edward E. Mayer:

If Dr. McIntire will remember the history of medicine of 300 years ago where a effort similar to what he proposes was tried both in England and France in regard to the barber, the surgeon and the practitioner of medicine, he will see how inglorious the result was and how it failed to solve any of the questions at that time. Nor do I think his idea would solve them to-day.

Personally I am in favor of strong efforts being made to secure a definition of medical practice. I think that is something which must be obtained in every state. If we secure from the legislature what is understood by the practice of medicine, I believe a great deal of our trouble will be done away with. The definition will mean that a man, whether he calls himself osteopath, homeopath, or by any other designation, must know certain things, and that he must do certain things, and if he does those certain things, though they have no reference to the use of drugs, he is a physician in the legal sense of the word. If this is secured, we can arrive at what he must be examined in to show the state whether he is qualified and no cults can claim exemption because they use no drugs. At first I was opposed to any single practice act, I could not reconcile myself to being put in the same category as certain classes of practitioners and also I clearly saw the necessity of an exact knowledge of drugs and drug-giving which such an act would not secure. But my subject-consciousness fell and my object-consciousness rose as the psychologists would put it and I feel that it is the only way to secure uniformity and justice.

Reforms must start humbly and later I feel that with a single practice act examinations would become stringent and thorough enough. Give me a young man with a proper preliminary education and with an understanding of the fundamental studies of a medical education and I would have no fear in sending him out to practise medicine, no matter what hobbies he would ride. Is not the history of medicine, even modern medicine, full of fantastic and unscientific procedures, which were once recognized and secured a certain vogue?

We cannot educate the laymen or the political men who dominate the legislature to the difference between the scientific practitioner of medicine—

or at least, the man who tries to practise medicine as scientifically as he can—and others who do not, especially as it is the "others" who do lobbying with dollars back of them. Only this winter, a few days after I had pointed out to a judge of one of our courts the reason why an osteopath should not be recognized as a practitioner of medicine, he called in an osteopath to treat him. A great many of our prominent men in politics are not educated in any sense of the word. In Pennsylvania probably more men have risen from the ranks on an average than in most states and it is hard to make them see things as we do, because they do not reason in the way we do.

But our editors can educate them through public opinion and in every county the attempt should be paid to reach the editors and with organized efforts it can be done.

A definition of what constitutes the practice of medicine is then to me the first essential. Secure this first then look to the obtaining of a single board bill in every state and thus regulate.

Dr. John L. Heffron, Syracuse, N. Y.:

It is true that Deputy Commissioner Rogers was of very great influence in aiding the New York law formulated by the State Society, but that law was passed by the most intense and personal effort. If any of you gentlemen think you are going to gain the acquiescence of the other recognized schools of medicine for the passing of any law limiting the practice of medicine you are mistaken; for, the ultimate result of the formation of a single board of medical examiners in any state is going to be the abolition of sects in medicine. That is one of the great advantages of such a medical act. In the Council of the State Society to which this law was referred, there was no great discussion of the question of therapeutics and materia medica. One of the great advantages of the law is the relegation of the treatment of disease to the colleges because, in the old act, therapeutics and materia medica had come to simply mean drug therapeutics and only questions on drug therapeutics were asked. We all know how limited a field drugs occupy in medicine to-day. It is one of the methods of treatment which ought to be more thoroughly taught and I entirely agree with Dr. Motter regarding the necessity of a course in pharmacology. But to say that therapeutics simply means drug treatment is entirely foreign to the modern practice of medicine.

The same might be said in regard to the omission of the theory and practice of medicine. If we could get the recognition of the term "internal medicine" and require the student to be examined on the natural history of disease it might be well. There are features in this act necessary to be eliminated, as those who practise surgery will recognize the absurdity of recognizing the specialty of gynecology just when the gynecologists are unwilling to be so called.

OBSERVATIONS IN PASSING.

A recent number of the *Literary Digest* quotes as follows from the New York *Evening Post:*

> It is not putting it too strongly to say that in no American college to-day, with equipment sufficient to entitle it to the name, can a faculty be found in which all the members are bound together by any single important connecting-link of past scholarly acquirement or current intellectual interest. It is the merest chance if a professor of biology in the younger ranks can meet the professor of Greek understandingly even within the narrow limits of the root-meanings of the Greek terms in his technical vocabulary. The professor of mathematics must steer clear of any formula or theorem beyond the freshman year to avoid the chance of flooring half the young professors and instructors in any single scientific department, except that of physics; and the fact that the professor of intellectual and moral philosophy does not hopelessly expose the ignorance of the whole faculty at every social gathering is due in no small part to the other fact that, except in the larger institutions, he is also president, and therefore absent in the quest of funds for the equipment of some new scientific laboratory. It is never certain that the professor of French can address a sentence of three words in that language to the professor of German without causing embarrassment; and we have recently known even a professor of Latin to be driven to outside help by a Greek quotation in a paper which it became his duty to put through the press.

If this description hold the mirror up to nature and the condition described is one attained by true progress, and represents something to be desired, then the contention for a preparatory training in general culture is antiquated, and schemes for medical education should be constructed upon the narrowest lines and with a single purpose of making the student a skilled artisan in medicine.

We believe the quotation exaggerates, but there is enough truth in its statements, to cause alarm. There is danger in entrusting the education of youth—not their instruction in certain subjects—to those who have specialized to such extremes. Such men should be employed to teach only in post-graduate studies, after a broad and substantial foundation has been laid.

* * *

The next (August) number of the Bulletin will contain the catalog of the Fellows. If there are any recent or prospective changes in address, kindly advise the secretary at once.

* * *

The rule adopted by the Academy at Atlantic City last year, defining a fiscal year, is working well. All obligations have been paid and there remains a modest balance. It is large enough to meet the necessary expenditure until the treasury is replenished by the dues for the present year. Notice of these will be sent out after the Chicago meeting.

* * *

The secretary of the Rhode Island State Board of Health reports the results of the examinations of April 2–3, 1908, as follows:

Name of College.	Passed.	Failed.	Total.
Connecticut:			
Yale University	1	0	1
Maryland:			
Baltimore University	1	1	2
Johns Hopkins University	1	0	1
Maryland Medical College	1	0	1
University of Maryland	1	0	1
Massachusets:			
Harvard University	1	1	2
Tufts College	1	0	1
Foreign:			
University of Naples	0	1	1
Non-Graduates	0	2	2
Total	7	5	12

* * *

The National Volunteer Emergency Service, instituted in 1900, has recently been re-organized by the election of Dr. James Evelyn Pilcher as its Director-General, and Dr. F. Elbert Davis, of New York, as its Adjutant-General. Its work will be conducted along military lines, the details being worked out in three separate Corps, a First Aid Corps, a Public Health Corps, and a Medical Corps—the latter consisting of physicians, with rank from Lieutenant to Colonel, according to length of service, to whom are afforded special opportunities for emergency training. It includes among its personnel a large number of notable personages, and is rapidly extending its membership throughout the country.

AFTER CONSULTING HOURS.

PRACTISING IN PIKE.

By Thomas Hall Shastid, A.M., M.D., LL.B.

XII.

MY FATHER'S ASSISTANT.

I should like to describe my mother—of whom I have already frequently spoken, and who, of course, was my father's only assistant—as she was in the days of which I write: small, slight, active, agile, with dark hair, dark eyes, dark complexion, and an expression alternating habitually between benevolence and shrewdness. She had a way, when at work, as she almost always was, of darting suddenly hither and thither, and making a kind of humming, like a little bee, and when she talked, she talked with a will, and drew her right forefinger repeatedly across the palm of her left hand.

I have said that her facial expression betokened both benevolence and shrewdness; and indeed shrewdness, as well as benevolence, she certainly possessed in great measure. There was, for instance, the way in which she met hurrying messengers at the door. If my father were in the country, and the man were over-anxious, as he not infrequently was, to get a physician, and might therefore quite likely go for some one else, diplomacy stood out in every feature of her countenance.

"Is the Doctor in?" the man would probably ask.

"What's wanting?" my mother would answer. You see she would first let *him* furnish some information.

"Wife's sick. Got a bad cold and a bad cough. 'Fraid she'll git pneumonia. Want the Doctor jest as quick as we can git him."

"Got fever?"

"Some."

"How's the pulse?"

"Don't know."

"How long's she been coughing?"

"Oh, two or three weeks."

"Up and around?"

"Oh yes, she's up and around."

"Cheeks red? eyes bright?"

"Hain't noticed pertickler; but she's *sick* though, an' her cough's bad, and I want a doctor mighty quick. Is *Doc* in?"

Then my mother would have to tell the man, No. But she was full of information now, about the case; and, knowing there was no real ground for hurry, she would quickly follow her admission with little miracles of tact: with soothing suggestions; with subtle insinuations; with startling, few-worded side-pictures of what might happen if Doctor Shastid's services were not ultimately secured. No secretary of state could ever exceed her in this. She would touch gently and concessively on the danger of delay, but then would proceed to contrast that hazard eloquently with the vastly greater danger of being too hasty and so of securing the services of a man who was not a "fever-doctor" by nature. And, all the while, she would seem most disinterested.

Then, too, she would bring that active forefinger into play, and draw in her palm the simplest of invisible maps. Why you could *see* where he was. "Go this way, go that way; in the corner's Bill Brown's, and the very next house you will find him. Oh no, you can't miss him. He'll be there."

If the case, though—in her opinion, not the messenger's—were one in which great haste were really necessary, she would frankly send the messenger elsewhere; but yet, as she did it, she would sigh so deeply and look so worried and disconsolate, that you saw very plainly how much the effort cost her.

Speaking of messengers, makes me think of the time when a big fat burly fellow panted up, one warm summer afternoon, to the side door and gasped for the doctor, the doctor. He was sick himself, felt *dizzy*, *knew* he was to be sick, was the doctor in, would have nobody else, Doc had saved him once before, etc., etc.

The Doctor was not in, but the man said he would wait, and down he plumped in the cracking rocking-chair, gasping and grunting.

Now this man was a wealthy old fellow who had had my father's services for many years, and yet had never paid a cent for them. So my mother's chance had come. And she was shrewd enough to know it. In one minute she had found he had brought his wheat to town that day. In two, she had discovered that he had sold it. In three, that he had sold it for cash and had the money with him. In four, the account-books were down and in her lap, and the amount of the gentleman's bill was agreed upon. And in just five minutes—"by the clock," as I have heard her tell it—she had the money itself—the physical, tangible, most substantial and material money—actually in her hands, —five shining ten dollar bills—all bright and new and crisp and delicious and shining.

When my father came, and had treated the man and sent him away, my mother handed him the bills. My father grinned and grinned. "I don't see how you have the courage to do such things," he said. "And *I* don't see how *you don't* have the courage," said she.

And indeed not merely in the management of messengers and in the occasional collection of an account by herself, was my mother's shrewdness of the greatest service to my father, but also in almost every matter of business whatsoever. She stimulated him to the driving of close bargains at the stores, to the advantageous "swapping" of horses and cows, to the keeping posted of his books, to the sending out of bills, to the collection of accounts by himself. All this, however essential to existence, was naturally distasteful to my father; and, but for my mother's watchfulness and care, would never have been attended to.

What bothered him the most was the accounts and the collecting. "He didn't like," he said, "to dun a man for—well, say, saving the life of his child. It didn't *look* right." But "Pshaw!" my mother—energetic little body—would answer, "it *is* right. Come now, let's post those books."

"Oh no; I'm tired."

"Well then, just dun John Maples."

"Oh no, I don't like to dun old John. He's always been my friend, and it isn't friendly to a man to dun him."

"What about Mut Markey?"

"Rich. Get it whenever we want it."

"And Jo Pratterhorn?"

"Poor. No use."

"Father," my mother would say, "we're going to post those books." Going and getting down the books from the top of the sitting-room book-case, she would hand my father the ledger, and, keeping the day-book herself, would call off the names and the services and the amounts, while my father would slowly turn the leaves of his ledger and transcibe them. Now and then he would stop, and, calmly flourishing his pen, write his name on a sheet of commercial note-paper. Sometimes, starting the name with a most prodigious initial, he would convert the letter, with a delicately shaded stroke or two, into the likeness of a goose, and laugh at it leisurely. My mother would keep him at the work, though, till it was done, and done properly.

In the course of years of urging of my father to closer and closer attention to his business and collections, my mother gradually developed a number of maxims, which became a source of much amusement and of jocular remark to my father. Here are some of them:

Be kind in sickness, but in collecting close.

What you can't get in lumps, take in driblets.

If people won't come to you to settle, do you go to them.

Doctor's bill's as good as a bank bill. (This she got, through me, from Andrew Timberlake.)

If a man can't pay, let him work. If he won't work, let him get another doctor. And if he can't get another doctor, why then just let him go without.

These maxims, in disregard of the fun my father made of them, she urged again and again; almost always very patiently, and, now and then, it must be admitted, with considerable success.

Very unworldly wise she was, though, in spite of the mere verbal severity of her maxims, as the following incident will illustrate:

A man, drunken and poor—a scalawag, as they say—whose child my father was even then treating, and in whose family he had, indeed, practised for long years without pay, was one winter solicited by my father, day in day out, to come and do some work for him. Not he, though. At last my father, stimulated by my mother and her iterated maxims, one winter morning, in person brought the gentleman—a Mr. Simons—down from town and got him to the woodpile. There Mr. Simons promised to remain and to saw faithfully for two hours. Scarcely, however, had my father turned his back when the man looked round and, dropping the saw, ran and jumped the fence, and was off.

My mother saw him go.

She went to my father, and told him what had happened.

"Well," said my father, "what do you think we'd better do about it?"

"Do? *Why!* If people won't come to you to settle, do you just go to them."

"I've been to him."

"Better try again then."

"No. No use."

"Aren't you treating his sick child now?"

"Yes."

"Well then, I'll tell you what to do. Tell him he must come and saw to-morrow for at least a single hour, or else he must get another doctor. If a man can't pay, let him work. If he won't work, let him get another doctor. And if he can't get another doctor, why then, as I've said so many times, just let him go without."

"But you don't mean it."

"But I do mean it. And if you don't go and see that man again, I'll go and see his wife."

"All right," said my father, laughingly.

"Come," said my mother to me.

We bundled up, for the day was cold, and set off, creak-creak across the snow, to a little house behind the schoolhouse.

The mother, pale and sad-eyed, let us in. She and my mother were soon deep in talk. Presently, I saw that my mother had stopped talking, and was looking earnestly toward the bed, where four or five small children were gathered together around the eldest, a girl, who lay in the bed, sick. Now, it so happened that the day was one of those happy ones between Christmas and New Year's, when there is no school and when all the world seems made for pleasure; and so the five or six children were playing together with their Christmas presents—two or three cheap and trifling things, worth, in a lump, perhaps a quarter. There were, as I remember, a small wooden duck; a tiny, flimsy, jumping-jack; a pigmy, sawdust-leaking, broken-headed doll. These things the crowd of children were passing round and round among themselves, giving and re-giving, thus making little seem much.

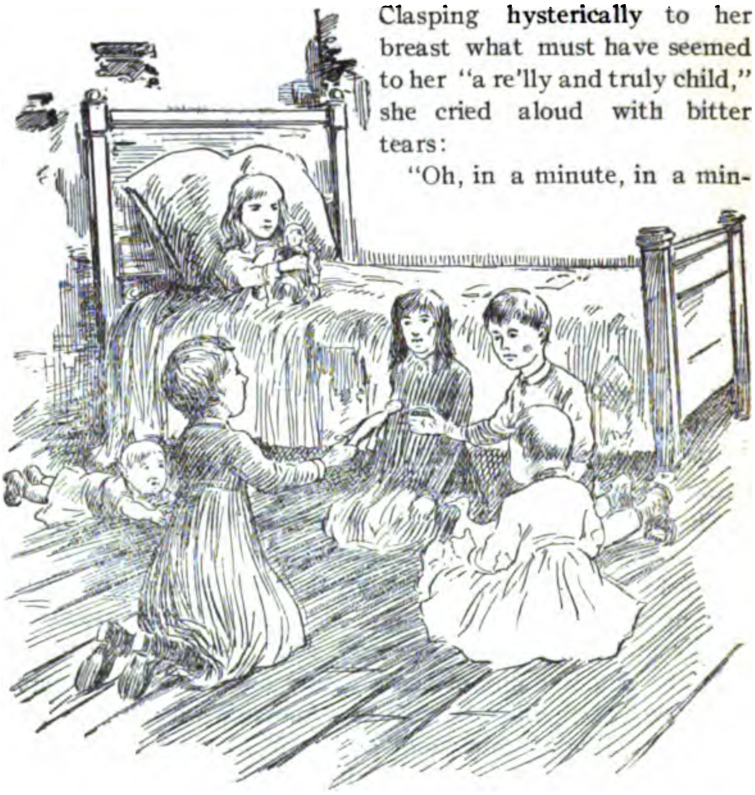
"I'll give you *that*," said one, passing the jumping-jack.

"Oh, *thank* you!" said the other.

"And *I'll* give *you that*," said a third, handing over the duck.

"Oh I certainly never shall forget your kindness," made answer the tiny recipient.

And now it came the sick one's turn to give away her doll. Clasping hysterically to her breast what must have seemed to her "a re'lly and truly child," she cried aloud with bitter tears:



"Oh, in a minute, in a minute! My baby! my baby! I cannot give you up, I cannot give you up!"

"Oh, God bless you dear sweet heart!" exclaimed my mother; "God bless your dear sweet heart!" And running to the child, she caught her in her arms and kissed her again and again with all her might, saying: "Oh, God bless your dear sweet heart! God bless your dear sweet heart! Aunty'll just get you a *whole family* of dolls; *that* she will, *that* she will. And all the rest of you, too, your dear sweet children! And she'll go right now."

And go she did too. I had to help her carry the packages.

As we stood by the fire at home, my mother was silent so long that there came an amused twitch about my father's mouth. "What makes you so still?" he asked.

My mother did not answer.

"What makes you so still, I said," he asked again.

Still my mother stood mute.

"Any success? What about the maxims?"

My mother tried to let this pass, but could not. "If you'd only seen that dear little thing crying for—" Here she stopped, gulping.

"Crying for business maxims?"

"Now see here!" my mother exclaimed, "I say if you'd—" But again she choked.

I took it upon myself to recount to my father the details of the trip. He laughed, but said:

"Well, mother, I think you did exactly right." And then he took the opportunity of sermonizing. "You see you can't punish children for the sins of their fathers. Sick women and children have to be attended to whether husbands and fathers are idle or industrious. Guess I'll have to go right on attending to that child. But, as I said, mother, I think you did qute right in buying the toys."

"Right! *Of course* I did right! There's a place for everything, and there's a place for maxims too; I just haven't seen a place for them to-day is all.—I remember how I used to love my own little dollies (gulp).—This isn't saying anything against business methods though; and I don't want you to remember it against them either."

To do my father justice, he never did.

But, great as my mother's assistance was to my father in matters of mere business and finance, she was perhaps of scarcely less service to him in affairs that were purely professional. When my father was away in the country, she was frequently able to be of thorough and effective assistance to those who were sick or hurt. As a mere matter of course, she pulled aching teeth for children, bound up their bruises, pulled out their splinters, thus saving them many a pang of pain they would have felt had they had to await the arrival of the doctor. But often, too, she did good service in cases that required more technical skill. Once a man who had fallen on a piece of glass, severing the radial artery, managed just to reach our door. And there he dropped. The blood was still spurting, but my mother, nothing daunted, ran and got a case of instruments, and, picking out the artery, closed a pair of forceps on each end tightly. And the man's life was saved. She did not try to *tie* the artery. That would probably have been too much for her. But nevertheless, she did save the man's life. In another case, an old lady who had taken by mistake a large dose of arsenic, came in gasping, gasping for the Doctor; but, before the Doctor came, the proper antidotes had already been administered by my mother, and another life had been saved.

In order to prepare herself as well as possible to be of assistance to my father in his more purely professional work, my mother, for a long time, devoted herself, as well as her arduous household duties would permit, to the reading of medicine.

Her household duties—which were very arduous indeed—did not much permit, but nevertheless she stuck to her studies with amazing pertinacity. Again and again I have seen her with a big medical book spread open on a stand beside her, while she stood before the kneading-tray, her slight arms plying vigorously in the dough. She would read a passage in the book, and then, as she kneaded and kneaded, or moulded and patted the loaves, would con the lesson softly to herself. And so, too, as she went about much of her other work.

But I do not think she had—as my father certainly did have—a great instinctive desire for scientific knowledge. Knowledge of other things—of music, of poetry, of history—she had in girlhood acquired with amazing rapidity and had since retained with marvelous accuracy; but science was not to her bent. I have known her to begin with Gray, the anatomist, and to end with Gray, the poet—or perhaps more frequently with Tennyson; to start bravely into an article on the gall-duct, and to come out at "What say ye, brother mariners, we will not wander more!"

Now and again, too, the sum-total of things to be attended to simultaneously, when she tried both to study and to attend to her housework, became too much for her. An instance of this sort I particularly recall. On that occasion she was seated before the stove, watching, or attempting to watch, a slowly browning piece of toast; now and then at the same time casting a contemplative side-glance at Carpenter's Physiology. For awhile she did very well. But presently the door-bell rang, and, when she had gone and seen the messenger and taken down the word and returned to her work, an entirely new train of ideas would seem to have started in her mind. At all events she forgot the toast; and it burned to *carbo carbonis* before its empyreumatic particles, telegraphing along her olfactory nerves, projected their disagreeable messages into her brain, and so on into the sphere of her consciousness.

"Well, the land of liberty!" was her rather non-technical ejaculation.

Laying aside the book, she went and cut another piece of bread. Setting it close to the coals, she watched and turned it carefully. "I shall have to be a toast specialist," she said. That night, though, rather late, she went again at the book.

Perhaps in no other way was my father's assistant of greater service to him than in the measureless confidence which she had in his skill at all times and under all circumstances. To her he was the very greatest doctor that had ever lived. However a case turned out, to her it had always been conducted with the utmost ability. Patient better, patient worse; patient well, patient dead; it was no difference so far as the propriety of the treatment was concerned. All had been done that could have been done. Of course medicine had not yet reached perfection. Even the unbroken succession of my father's failures in experimentation did not in the least discourage her. "Failures were but stepping-stones," she said.

Perhaps her infinite faith in my father explains, at least to some extent, the fact or her superabounding energy in her housework. Except when sick, no assistance would she have. Of all workers that I have ever known, I have never known another to work like her. Up early and down late, she seemed forever at work. Nothing tired her, nothing daunted her; nothing discouraged or dismayed her. Washing, wiping, scrubbing, folding; scraping, patching, darning, mending. At work, at work; at work always, always. And she went with a lift and a lilt, with cheeks glowing and eyes sparkling. You would have thought, to see her at her labors, that the fate of empires hung upon her single-handed efforts.

And now, gentle reader, I should like to tell you of my mother in her quality of mother, rather than in her quality of mere assistant to a country doctor; but, as the scientific books she used to read would say, "it does not fall within my scope." If it fell within my scope—but then, as I say, it does not fall within my scope. I cannot even tell you of the time, that bright and joyous morning in my early childhood, when she and I together planted some simple flowers in the blossomy old orchard. Nor can I tell you how, in much later years, on my home-returnings after weeks at school—my father, who *would* carry my satchel, walking beside me—she would stand at the corner of the house, under the old cottonwood tree, and there, with outstretched arms and shining face, would cry to me— But then, as I say, I was to speak of my mother only in her quality of mere assistant to a country doctor.

LITERATURE NOTES.

NOTICES.

TO PANAMA AND BACK—THE RECORD OF AN EXPERIENCE. BY HENRY T. BYFORD, M.D. Chicago: W. B. Conkey Co. 384 pp.

Dr. Byford tells us that when he went to Panama that he might attend the Pan-American Medical Congress, he could find no guide-book. He permits us to infer that this book, the record of his experience, might have had an origin in a desire to to be helpful to future travelers bound for the Isthmus. Modesty prevents him assuming the pedantry of the guide-book, which would have been a rôle much less pleasing than the charm of the author as himself.

As one reads, there is a desire to make the trip provided one could get out of it as much as the doctor puts in his narrative. But sober second thought makes sure a saner, more comfortable way—possess yourself of a copy of the book, and after the toil of the day is over, in easy chair and slippers, make the trip in comfort, for surely, unless your eye is well trained, you will have more of pleasure, of information and of fun from a perusal of the book than the pursuing the trip itself.

DEPARTMENT OF COMMERCE AND LABOR, BUREAU OF THE CENSUS, MORTALITY STATISTICS, 1906. SEVENTH ANNUAL REPORT. Washington Government Printing Office. 1908. 480 pp.

That advance is making in the accuracy of the published vital statistics can be seen by a glance at the report and its immediate predecessor, for while numbered the 6th and 7th annual reports they are really the 1st and 2nd volumes of reports. That much remains before a fairly satisfactory report can be published is seen in a statement in the letter of transmittal that the "Registration area" (that portion of our country where deaths and their causes are registered) embraces but 48.8 of the total estimated population. There is still need for the public-spirited physician to instruct the general public upon subjects concerning his welfare.

NOTES.

The Bulletin of the Bureau of Labor for November, 1907, publishes a full report of the Woman and Child Labor Laws, and the Factory Inspection Laws of the various states. The next number, January, 1905, treats of Employers' Liability in the United States, and the Foreign Workmen's Compensation Acts.

"Whoever has or will matriculate, and aspire to be a member of the great and most useful of the learned professions, with a palm in his hand, and a crown in his eye and sinecure in sight, never realizes his ardent or dream-like aspirations, but a sudden or prolonged disappointment which effects or produces a dropping down and out to some more satisfactory and lucrative calling suited to his nature or inborn ability and capacity, for the last consideration, probably about one-twentieth, possibly more of the regular or irregular, as it may be, bearers of parchment become the followers of other callings generally useful, but sad to say, some becoming unprincipled charlatans or mountebanks."—From "*Our Weal and Woe*," by Dr. William Louis Rabe.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the previous issue that are not otherwise mentioned in this number. The present list records publications received from April 20 to June 10, 1908, inclusive.]

This notice will be considered a full return for the courtesy of sending us the publication. Additional notices and reviews will be made, depending upon the space available, and for the best interest of our readers as judged by the management. Publications treating of medico-social questions will be given precedence.

Twenty-ninth Annual Report of the State Board of Charities of Massachusetts. 1907.

Transactions of the American Climatological Association for the Year 1907. Volume XXIII.

Revista de la Real Academia de Ciencias Exactas, Fisicas y Naturales de Madrid. Vol. 6, Nos. 5, 6, 7, 8 and 9.

U. S. Geological Survey: Bulletin No. 330—"The Data of Geochemistry;" Bulletin No. 331—"Portland Cement Mortars and Their Constituent Materials."

Fourth Annual Message of John Weaver, Mayor of the City of Philadelphia, with the Annual Reports of the Directors of the Department of Public Health and Charities and Superintendent of the Bureau of Charities for the year ending December 31, 1906.

What Forestry Has Done—Treadwell Cleveland, Jr.—U. S. Department of Agriculture, Forest Service Circular 140.

The John Crerar Library, 13th Annual Report for the year 1907.

The Submucous Resection of the Nasal Septum, Otto T. Freer, M.D., Chicago, *Journal of Ophthalmology and Oto-Laryngology*, 100 State St. 50 pp. 24 Illustrations. Paper, 50 cents.

Our Weal and Woe. Boon and Bane. By Dr. William Louis Rabe, Dwight, Ill.

INSTITUTIONS OF LEARNING.

California, Univ. of California, Bull. 3d S., I, 3; Univ of Southern California, Bull. III, 3. *Colorado*, Univ. of Colorado, Catalog, 1907-1908. *District of Columbia*, George Washington University, Bull. VI, 4, VII, 1. *Illinois*, Univ. of Chicago, Circ. of Information, VII., 3; Eureka Coll., Bull. VI., 4; Ewing Coll., Catalog, 1907-1908; Knox Coll., Catalog, 1907-1908; McKendree Coll., Catalog, 1907; Northwestern Coll., Catalog, 1906-1907; Northwestern Univ., Catalog, 1907-1908, Quarterly Bull. Med. School, IX., 4. *Iowa*, Parsons Coll., Catalog, 1906-1907; Simpson Coll., Bull. VIII., 5. *Kansas*, Ottawa Univ., Catalog, 1907-1908. *Maine*, Colby Coll., Catalog, 1907-1908. *Massachusetts*, Clark Univ., Register and 20th Official Announcement; Harvard, Report of the President and Treasurer, 1906-1907. *Michigan*, Univ. of Michigan, Calendar, 1907-1908. *Minnesota*, Parker Coll., Bull. I., 3. *New York*, Auburn Seminary Record, IV., 1; Barnard Coll., Announcement, 1908-1909; Hobart Coll., Bull. VI., 3; Polytechnic Institute of Brooklyn, Catalog, Coll. of Engineering, 1908. *North Carolina*, Trinity Coll., Catalog, 1907-1908. *North Dakota*, Fargo Coll., Bull. IV., 1. *Ohio*, Univ. of Cincinnati, Record, 1st S., IV., 3, 5; Western Reserve Univ., Bull. XI., 2; Wilmington Coll., Bull. III., 1. *Pennsylvania*, Beaver Coll., Bull. VI., 4; Medico-Chirurgical Coll., Bull. III., 3; Pennsylvania Coll. for Women, Catalog, 1907-1908. *Rhode Island*, Brown Univ., Bull. V., 1. *Virginia*, Medical Coll. of Virginia, Bull. V, 1; Univ. of Virginia, Record, I, 7. *Wisconsin*, Beloit Coll., Catalog, 1907-1908; Univ. of Wisconsin, Bull. 154, 200, 212.

HOSPITALS AND INSTITUTIONS.

Fortieth year Book of the New York Orthopedic Dispensary and Hospitals. Twelfth Annual Report of the Board of Managers of the Pennsylvania Epileptic Hospital and Colony Farm for the year 1907. First Annual Report of the American Hospital for Diseases of the Stomach, Philadelphia, 1908.

REPRINTS.

Acknowledgment is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. William Seaman Bainbridge, of New York; Leartus Connor, of Detroit; Jean Dardel, Aix-les-Bains, France; Guy Hinsdale, Hot Springs, Va.; Frank C. Wilson, Louisville, Ky.

BULLETIN

OF THE

American Academy of Medicine.

(Specializing in Medical Sociology.)

VOL. IX. ISSUED AUGUST, 1908. No. 4

THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

THE DOCTOR AND SCHOOL ADVICE.[1]

THOMAS D. DAVIS, A. M., M. D., PH. D., Pittsburg, Pa.

During the past year the Academy has kept on the even tenor of its way. The meeting and conference held in Pittsburg at the close of the holidays was in every way a success. The representative attendance and papers read at its sessions showed the practical importance of the subjects discussed. Just what is the very best preliminary preparation for a medical practitioner is far from being decided. The argument varies when considered from the culture, or the commercial point of view. Are we a liberal profession or a commercial calling? Is medicine to be pursued as a science, or as an art? Have we accomplished all for a doctor when we make him able to minister to the ills of the flesh? Or leaving the culture view point, just how much or how little education is necessary to make a man qualified to practise medicine? How much, or how little, knowledge should the public demand of us? Even how much, or how little, of the human body itself may we minister to, yet be ranked as accomplished practitioners? Such questions are living questions and are becoming more important every year. They were all quite fully discussed at the conference and its proceedings are published in our BULLETIN. Another conference on these subjects is very desirable and might result in still more good.

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[1] President's address before the 33rd Annual Meeting of the American Academy of Medicine, May 30, 1908.

Cornell University joins Johns Hopkins and Harvard in demanding a preliminary college degree before admission to their medical departments, yet the number of college graduates in the medical schools is decreasing. It seems as if more than ever there is a necessity for such an organization as your Academy to uphold a high standard of preliminary education. We have never arrogated to ourselves any superior excellence, yet we stand as a special organization to emphasize a certain educational qualification. I am convinced, that by adhering strictly to our generation-old qualification, we will be instrumental in inducing others to prepare for our fellowship. There are many brave men and soldiers outside of the Grand Army of the Republic, but to wear its button indicates years of sacrifice and service, if nothing more. So a fellowship in The American Academy of Medicine must stand for a distinctive idea and accomplishment.

Your committees have all been active and will present to you valuable reports. Your indefatigable secretary has, if possible, been more active than ever and The Academy is under a debt of gratitude to him, for his enthusiasm and efficiency.

It would seem wise, now that our organization is over a generation old, that we should seek a national charter and thus our permanency be emphasized in every state of the Union. I would advise that a committee be appointed to take this matter under consideration, and secure if it be possible, such legal recognition.

It is now my pleasure to call your attention, for the rest of the time alloted to me, to a subject various phases of which have been considered by you on other occasions. It is hard to define my theme, for I propose to wander a little, but possibly it may be considered under the title:

"THE DOCTOR AND SCHOOL ADVICE."

The development of the rising generations is of such paramount importance, that all medical questions concerning their schools should be of supreme interest to every physician. It is possible, however, that there is no subject upon which a doctor is so poorly prepared to give proper advice. It is also true that, on no important medical subject is he consulted so seldom as concerning school hygiene. Too often school buildings are erected by ignorant directors and political architects, who are concerned only in architectural effects, while hygienic arrangements are sacrificed for external appearances. Much attention has been given to the mental development of our children, but their physical improvement has been woefully neglected. Take for instance the location of a school building. Who ever heard of a school board seeking professional advice before deciding where to build? The price of the property, its convenient location, or a political pull is about all that is ever considered. The generals of the Japanese army were not permitted to pitch their camps until the location received the approval of their medical officers. The beneficial result was an astonishing lesson in health to the whole world. Our great army of school children may be housed anywhere that suits the caprice of our learned school directors, or the interests of unselfish real estate brokers. This is especially true of the rural districts and villages where but little attention is paid to the hygienic surroundings. In the cities thousands of dollars are spent in often worse than useless ornamentation of buildings that should have been used for the purchase of more ground for light and air, and exercise. Especially should medical men insist on purchasing large tracts of ground for school yards and play grounds. In our rapidly growing cities and towns this is a matter of economy as well as of hygiene. In my own district I insisted upon this some years since and the result is, that to-day the ground alone, upon which each school house is built, is worth more than we paid for the three or four acres which now surround each building. Other school districts in our city invested in costly buildings and small grounds. They now are surrounded with houses so closely as to shut out both light and air and all vacant lots being built up, the children have absolutely no place to play but in the streets. To remedy this evil, an association has been formed and it is advocating a bond issue of two million dollars to supply the necessary play grounds, which are now recognized as essential conservators of children's morals as well as of their health. The smallness of the grounds also leads to erecting school houses higher than two stories, which in a civilized country should not be tolerated, for even if we overlook the danger of fire and panic, the climbing up and marching down long flights of stairs by growing children is far from conducive to health.

It has been stated on the floor of this Academy, "That if the choice was between the school house and the play grounds, the play grounds should have the preference." This sentiment is as old as the classic Greek and represents that great nation's method of education. The Greeks put great importance in plays and games, and in the all-round development of their male children. They not only excelled in culture but in athletics. However, it is likely that their particular kind of education could be inculcated in the open air and did not require the scientific appliances of the modern school room. On the other hand, many of the subjects that we teach, from dull text books in stuffy rooms, could be better taught from nature in the open air. The Greeks gave most of their attention to the precocious and promising, urging and encouraging them to greater attainments. Our most strenuous efforts are put forth for the weak and the afflicted, leaving the strong to shift for themselves. Their best reached great heights, but their poorest reached great depths. We do not keep the well and the strong under the care of a physician, but only consult him when disease has established itself. The Chinese way seems better. There, a doctor's pay is said to stop when his patrons get sick. If this were the rule here, our play grounds would be larger and more attractive. Some one has truly said: "Our most beautiful flowers, greenest grass and freshest air are found in our cemeteries." Given in death what they were deprived of in life. Play grounds and fresh air should not only be for the sick, but to prevent sickness. That play is of great natural importance is clearly taught by the fact that most animals play.

The capering horse, the kitten and her ball, frolicking dogs, gamboling lambs and singing birds are object lessons to every physician. Play rests by change of occupation. It is a common thing to see men after the arduous labor of the iron mills, at the noon hour, working hard playing ball. Just where play ends and work begins may not be defined. Tom Sawyer got his irksome white-washing done by making other boys think it was play. "Play ball," means to waken up and go to work. By active play muscles are stimulated, respiration increased, lungs expanded, voice cleared, perspiration produced, blood corpuscles made, secretions and excretions stimulated, circulation improved, appetite created, digestion benefited and all this in a way quite different from work. For play also relaxes, recreates, amuses, entertains, absorbs, awakens imagination, stimulates competition and rests both body and brain. Froebel founded his kindergartens on the merits of play and under its guise does systematic teaching. For each play, in itself so simple, inculcates some great principle, or leads to the formation of some good habit. The marked benefit of most kindergarten training is clearly evident when these children enter the school proper and are compared to those who have never had such opportunities. Play is particularly the pleasure of children and youth and there is no surer sign of advancing years than a lack of interest in play. Here is a wide scope for the doctor's advice to the schools.

The arrangement of rooms, for the convenience of teachers and scholars, has its hygienic as well as its pedagogic side. Every school room should have a large, well lighted, heated and ventilated cloak room, where each child's wraps can be hung separate from the others and be thoroughly dried if necessary. Such a room should be supplied with a washstand, liquid soap and towels directly under the teacher's supervision, beside the general lavatory, so essential in the crowded districts. Many village schools and country districts have no conveniences for washing at all, although their school hours are longer than in the cities. It is a surprising shame that many of our higher institutions of learning have none of these conveniences at all outside of their gymnasium.

Every school room should have an abundance of light falling from the left and behind, a provision totally ignored in all country school buildings and but partially carried out in others. The black-board should extend unbroken the entire length of the right side of the room, as the light will thus fall upon it to the best advantage of both teacher and scholars. The arrangements of a school room are often made to suit the requirements of a showy exterior rather than the convenience of the teacher and the health of the scholars, for in order to secure the light as suggested the room has sometimes to be seated in the most awkward way possible for the teacher, simply because the matter was not considered at all, when planning the building. It is surprising how ridiculously constructed some of our great university buildings are in this respect. Many private schools occupy houses never designed for schools and but poorly adapted for them at best. Undoubtedly, much defective vision of school children is caused, or aggravated, by the disregard of this very simple provision, for teachers will often ignore it even in rooms correctly lighted. They will give the children exercises to read or write while facing the light, or in the darkest part of the room where a book has to be held close to the eyes to see the print, or put work on the blackboard that is difficult to see distinctly. It is astonishing to notice how many children are contracting the habit of nearsightedness. On this point, Dr. Veasy, in the February BULLETIN says: "One of the most frequent faults that has been observed in young children, is that of placing the eye too near the work or *vice versa*, holding the work too near the eye. The nearer a small object, such as the printed page, is held to the eye, the more cross-eyed we are looking and the greater the amount of strain on the eyes. This in time will produce many nervous symptoms and in some instances nearsightedness, which may progress." It is the custom of most teachers to punish a child for looking out of a window, and yet it is of the greatest value to the sight, to allow the eye to rest, by fixing it on some distant object. It is impossible to completely rest it in an ordinary school room and great relief is obtained by looking at a distant landscape. Even a child, who is trying to rest its eye by looking at the furthest point in the room, is often peremptorily ordered by the teacher to attend to its books, not realizing that the scholar is simply following the dictate of nature.

Many city school rooms are so dark that artificial light has to be used most of the time. These lights are usually hung from the ceilings, without the slightest regard for anything except the appearance of the room and the show of the fixtures, and their shadows are most confusing. Surely a doctor's advice would be of value concerning the method of lighting.

Heating with ventilation is of great importance and much thought and ingenuity have been expended upon this problem. Unfortunately, no perfect system has yet been devised. To introduce fresh air rapidly without creating a draft is the chief difficulty. To keep a room, full of children, at a regular temperature of 68 or 70 without the air becoming impure is not easy. Even allowing the standard thirty cubic feet of air per minute to each person does not remove the trouble. Very elaborate and expensive systems, with electric fans and filtered air have been installed, only to be accompanied with the inevitable draft and its attendant dangers. Such systems of indirect radiation rarely supply heat enough during extremely cold weather, even though satisfactory in more moderate temperature, for school rooms require to be heated quickly.

Without entering into the subject fully, the best results in our public schools have been obtained from heat supplied by direct radiation from hot water, or steam coils, fresh air being introduced through the window sash and by opening all the windows every three-fourths of an hour, for two or three minutes, while the teacher and scholars take brisk physical exercise, or pass from one room to another. There is no patent, nor graft on this plan. It is both cheap and effective.

Many schools have introduced so-called physical culture as part of their curriculum. There can be no question, concerning the great advantage of such exercises if they are carefully selected and adapted to the age and conditions of the child. Unfortunately many of these so-called systems are merely showy fads, that are of no possible use except to exhibit proficiency in a drill, or certain grace of movement and carriage. They were not designed by physicians, nor founded on correct physiologic principles. They only take time from studies without any compensating physical benefit. Free gymnastics systematically taught are of great use, but when performed in unison may lack the property of exercise and the qualities of play. Mechanical gymnastics having the elements of competition are more interesting and are more exacting, and therefore more harmful, if not carefully directed. The accurate charting of the whole body and so exercising the deficient parts as to develop them in harmony with the stronger parts, is of paramount importance. When a child starts to a public school it is carefully examined, by a competent teacher to learn what class it is prepared to enter, but who ever heard of a child being carefully examined by a competent physician to determine just what exercise it should take? They do things differently in Germany, for there a scholar's physical training is as much under its teacher's care as is its mental development. This accounts for why they can have their children stay so continuously in school and yet be just as healthy as ours, with our short hours and long vacations. For, according to Dr. Payne, "The German children are required by law to be in school more years during their lives, more weeks during a year, more days during a week and more hours during a day than American children."[6] Much of this time, however, is consumed in proper physical culture and manual training, and in music, which is a relaxation as well as an accomplishment. By exercise, under proper instruction, physical defects may be overcome in childhood that would become deformities in adult life. Especially for girls are appropriate gymnastics valuable, as they forever banish the wasp waists and give strength and vigor to the whole frame. Girls are given to plays of the less strenuous kinds and are inclined to sit around with their dolls, or needle work. Few of their active plays bring all the muscles into action and those that are more arduous, as hop-scotch, skipping rope, bicycling and dancing are too violent in certain directions, especially when encumbered with tight clothng. Yet girls need, as well as boys, to have their muscles trained to act promptly with the mind, and their nerves get all the stimulation possible from carefully selected and gradually increased exercise.

Gymnastics, especially the mechanical kind, rapidly develop into athletics. No one subject has excited more debate in recent years in educational circles, than the use and abuse of athletics. Surely a disinterested, scientific doctor's advice is needed in this phase of school life. It is not the athletic exercise that is to be avoided, but only the strenuous competition, which leads to extra training and marked over-doing, afterwards relapsing into enfeebling inactivity, that is to be condemned. The end desired should not be to signally excel in any one particular, but to produce a symmetrical body, developed to a healthy extent. I knew a young man, who after years of carefully instructed training, "charted up" the strongest man in his college, yet he never excelled enough in any one branch, so as to be selected to represent his college in any athletic contest. His certainly was the ideal athletic training. It seems to me here is room for a true specialty in medicine.

Our colleges seek the most thoroughly prepared teachers to direct the mental development of their students, but their physical welfare is too often intrusted to so-called trainers, whose ignorance is only equaled by their presumption. Prof. Muldoon has a large clientele. Of course, we are prone to judge college athletics, by the sports that appeal to the public, and to overlook the systematic exercise that is part of the curriculum, but still there is room for experienced medical advice in directing college athletics. It seems to me the football controversy should be settled by physicians and not by college presidents.

So far my remarks on physical training have referred mostly to city schools, as the scholars in them seldom have the advantage of long walks in the country fields, or in the deep woods, or beside the rippling brooks, where ozone abounds and every breath is invigorating, or where work in the fresh soil strengthens muscles and nerves, whets the appetite and cultivates both the ground and the worker. But even in our country and village schools, systematic callisthenics would be of great advantage to the youth in correcting their carriage, improving their gait, straightening their bodies and adding grace to their movements. Much of their reputed uncouthness could be overcome, and the stooped shoulders prevented, if rightly instructed and trained. With heads erect and chests fully developed, our country lads and lasses would be markedly improved, because their defects in these respects is not solely due to their occupation. Indeed, our country children should be the most agile, lithesome, erect and most perfectly developed physically of all our youth, and it should be the province of our schools to aid in accomplishing this. This is true of the children in the rural districts, in many foreign countries, especially where they have elementary military drills in their schools.

Many cities are having their school children examined at stated periods by doctors. There can be no doubt of the advantage of a careful, practical medical inspection of school children. All scholars, who do not present a certificate from their family physician, should be subjected to such an examination as frequently as circumstances may require. These examinations should be made with thoughtful consideration for the teachers and with the greatest sympathy for the scholar. They should, except in emergencies, be conducted outside of school hours, for the time taken for inspection, when the child should be in school, adds extra burdens on the hours already too fully occupied. A physical examination by a strange doctor, is a wear and tear on the nervous system of some children, from which they do not recover for hours. I have known sensitive children greatly agitated and deeply mortified at the unexpected result of an examination. There would also be more privacy and less odium if the examinations were held outside of school hours, and possibly then a child could be accompanied by a parent or relative. Everything should be done to make scholar, teacher and parent feel the necessity and advantage of such examinations and thus secure their hearty coöperation. The examiner should not forget the interests of the scholar and see everything through his medical blue glasses. These examinations are too often conducted by physicians without practical experience, who have not yet learned the *suavitor in modo*, or who do not realize that physical perfection is no more to be found than moral. On the other hand the conditions revealed in our poorer districts, by such examinations, is horrible beyond belief. Some children have been found with their clothing sewed tight upon them, so that they are not removed for months; others with their ill-nourished bodies covered with sores and their persons and clothing alive with vermin. These children come from the foreign element living in the alleys and crowded tenements, but are associated with other children in the schools, who are cleanly and healthy. The condition of the teeth should be examined, as defects in them have much to do with bad digestion and nervousness.

If such examinations of scholars is necessary, the hygienic supervision of the school buildings and their arrangements is just as necessary. There should be some professional authority that would compel ignorant school directors to install all hygienic improvements. Too often at present, plumbing requirements are nothing but the caprice of ignorant inspectors, or are solely in the interests of some manufacturing firm, under the guise of law. No school building should be constructed until its plans were sanctioned by such professional authority. Even after it is built a frequent medical inspection of the building is needed, for disease can be communicated by wash basins, towels, soap and uncleanly lavatories, or by the free text books and supplies. There may be an exchange of books, pencils, slates, etc., that is dangerous. Colored crayons, especially green ones, may contain poisonous materials and only dustless crayons should ever be allowed. The cleaning, dusting, heating and ventilating should be supervised by some one with more intelligence than the average janitor. Vacuum cleaning is a modern invention that could be introduced with great hygienic benefit, if not economic saving, into school rooms that should be swept every day.

On the other hand, too rigid and ill-advised regulations may defeat the very object intended, by failing to secure the support of those interested. For instance, in our city the law compels physicians to report all cases of measles and the Board of Health placards these houses and all children in them are kept out of school for thirty days. The result has been we have just passed through the severest epidemic of measles in our history. For most families knowing that measles were not very dangerous and not wanting their houses placarded, never sent for a physician at all. To keep up the deception, they kept sending the other children to school, thus spreading the contagion. Now these families would have been perfectly willing to keep their children out of school for a reasonable time, but not for a whole month. Some of these families had little stores and a placard meant a serious loss of business for several weeks, hence they also concealed the disease and what might have been but a few scattered cases of measles became an epidemic.

The amount of time lost in keeping children out of school should be considered. For instance, I know a boy of thirteen who has been working hard to keep up with his grade. His little sister, three years old, has had measles and therefore he has been kept out of school, although allowed to play with all the other school children on the street. The consequence is the children have been just as much exposed and he has been cheated out of his studies, which he cannot possibly make up, and thus a whole year is lost in his education, if not in his life. In the more dangerous diseases, of course, there can be no question as to the benefit and necessity of a rigid oversight, but even in these cases, where there is a perfect home quarantine, the other children could safely be allowed to attend school.

The teaching of physiology and hygiene is surely of the greatest importance, yet in our primary and secondary schools it is too often left to teachers who cannot understand the text book, let alone excite any interest in the study. On no subject can a child's curiosity be more readily excited and its interest kindled, but as a rule, on account of the way it is presented to them, they look upon the study as dry, if not disgusting. No subject has more practical importance, yet it is positively disliked by most children. They think of it as a lot of hard names and uncanny facts, whereas it could be made easy and attractive. Possibly the indifference, if not contempt, of grown people for hygienic subjects grows out of this distaste engendered while in school. The apathy of our governing bodies, concerning all things medical, may be a further manifestation of this same early lack of teaching. There can be no doubt if our children could be properly interested and instructed, a few years would show a complete revolution in the sentiment of the public concerning all hygienic questions. Not only that, but the teaching of hygiene in our schools in its relation to morality and personl purity, would go far to elevate the next generation. Children in the country familiar with domestic animals learn the facts concerning reproduction naturally and innocently. In the city this subject is treated in silence, or as a mystery, the truth often only learned in shame and disgrace. Our very efficient committee on this subject has given us valuable reports and its chairman, Dr. Helen C. Putnam, in her addresses, urging this special teaching, is exemplifying the great good of a doctor's advice to the schools.

There is still a newer and more uncultivated field where a doctor's knowledge would be of great advantage to education. Says one writer, "The medical profession, including the biologist and physiologist, holds in its possession facts about children that are absolutely fundamental to the right education of children, and that are not sufficiently known to the teaching profession, certainly not to the general public. In fact, the medical profession holds the key to the elementary educational problem to-day."[1] If this is true it would appear that the key is very rusty from lack of use, for surely doctors hold all such knowledge more for their own profession, than to assist educators. There can be no doubt that there are true physiologic and biologic facts in great numbers well known to the scientists, which are never used or slightly used in the great problem of education. Even where these facts are taken into account, they come to the educator from a different point of view, and are given less weight than a physician would give them. Indeed, all questions concerning the maturing body and the developing brain, as well as the special liability of children to disease and their inability to resist it are facts that should be thoroughly understood by all educators.

It was stated on the floor of this Academy last year, "That a child should not be sent to school before eight years of age, and that those who went even later easily overtook those who had been in school for several years." I do not know whether this statement was made from experience and therefore referred to a particular school, or whether it was just a whim of the speaker, but surely it was not based on physiologic, or psychologic truths. A child from the time it is born is a learner and therefore is always in school. Every one with whom it comes in contact is its teacher and it learns more the first three years of its life than it ever does afterward, in a corresponding length of time. True, the mental effort of such learning may not be so great as are the more intricate mental tasks of later life, yet, in comparison to the physical strength, it is possibly more. Not only is the child capable of great mental work, but the proper development of the brain makes it capable of still greater accomplishments.

What then is the mind? "No matter," as *Punch* says, as far as my thought here is concerned, but that it is truly dependent upon the physical condition of the brain is fundamentally correct, so that the development of the brain is essential to education. Thus the physiologist, if not the pathologist, is as necessary to education as the psychologist. If we have any difficulty in understanding how mind can be influenced by matter, we should have as much difficulty in understanding how mind can influence matter, and still more difficulty in conceiving how mind could be the product of matter. For my purpose now we do not need to theorize on how the brain is the organ of thought, but only that practically it acts so, and that in the light of modern knowledge we must add to Juvenal's classic epigram, "*Mens sana in corpore sano,*" *in cerebro sano*, for only by a sound brain can we have a sound mind. The ancient philosophers did not know this, and I was recently surprised to learn from a Chinese scholar, that the Chinese still believe with Aristotle, that the mind is located in the heart. When we realize how very ignorant the intellectual giants of old were concerning the body, we can better understand what fundamental information the modern anatomist and physiologist have brought to the psychologist. The ancients located the different emotions, etc., in various parts of the body and these old conceptions are reflected in various modern phrases, such as—to vent one's spleen; loving with all our hearts; puffed up with vanity and melancholia, or black bile.

That the brain is the seat, or organ, if you will, of the mind, is indicated by all the nerves centering there, like the telephone wires carrying their messages in and out from some central switch board. It is shown by the fact that when various portions of the brain are similarly diseased in different persons, the mental result is always the same. It is possible to locate new growths in the brain, or to locate a blood clot with reasonable certainty, by the mental as well as the physical results. It is proven experimentally by the removal of portions of the brain substance, which has enabled us to make vast strides in locating centers of certain functions and perceptions, as well as of motion. On the other hand, considerable portions of the brain substance can be removed without appreciable mental injury, but this is true only of limited brain areas, while very slight injury to others produce the most serious results to the mind. We all realize the effect upon our minds of too much or too little blood supply to our brains, or by the effect of a blow, or narcotics on our consciousness. Just what particular property of the brain leads to great mental power may not yet be known, but the more valuable the jewel the finer is its casket. Just what brain changes occur with intellectual development may as yet be only surmised, but that these changes occur according to regular physiologic law cannot be doubted and here I return to my subject, for it should be the doctor's highest ambition that he should so learn these laws, that he could direct educational processes.

The size of the brain certainly does not have as much to do with intellectual attainment as its texture, and yet it is true that man's brain is larger than that of any other animal except possibly the elephant and the whale. The skull of the gigantic diplodocus, discovered by the Carnegie Institute, has room for a brain much smaller than that of a human being, while the ox has a brain only half the size of a man who weighs twenty times less. Horne says: "The increased size of the brain does not give increased control over the body, nor does it increase the instincts, but the enlarged cerebrum signifies capacity for education."[2] Certain of our instincts are inherited and yet they are far from being as evident in man as in the lower animals, for instance the various breeds of dogs, as the shepherd, bird, coach, terrier, hounds, etc., show certain different traits. The instinct of these various species of dogs are clearly marked, and yet by careful breeding each of their peculiar characteristics can be marvelously increased. But the same does not seem to hold true in regard to intellect in mankind. The children of learned parents do not always have their parents' characteristics. At best, great intellectual ability is not manifested through more than two or three generations. While, therefore, the grosser parts of the brain may be improved by breeding, the more subtle parts seem to be impaired by heredity, and can only be improved by cultivation in the individual. In this study, however, we must never eliminate the importance of environment, for it may be opportunity, rather than heredity, that leads to intellectual differences. "Education produces changes in the brain, that makes it respond to more subtle stimuli," and if this education is conducted skillfully by highly intellectual parents, it may be so gradual that heredity, instead of cultivation may be given the credit of high attainments. On the other hand, children are often grossly neglected by their very intellectual parents, who intrust their education to very indifferent teachers and thus brains of fine texture are ruined. Admitting, however, the great difference in the capacity of different brains, yet the coarest texture is capable of great refinement if cultivated at its proper physiologic opportunity. Here is where the physician and educator should join forces, for we are all learning, as Dr. Gulick says, in The Efficient Life, "That it is impossible to treat the mind and the body as if they were really distinct. We have discovered that the two are so bound up together that nothing can affect one without affecting the other to a greater or less degree. An emotion may involve all the functions of the body—circulation, blood pressure, muscular tension, respiration, glandular activities and the rest."[3] On the other hand, improper blood supply, or lack of nutrition, or bodily fatigue will affect our mental powers.

As the various organs of the body develop at different ages, more or less clearly defined, as the muscles become fitted gradually for severer service, as the organs of special sense and the vocal apparatus show gradual changes, so the brain has its periods of progress and like our bones can be warped, or shaped, during its plastic period. "Education must strike the central nervous system while it is plastic," says Horne,[2] and plasticity begins with birth and progresses with ossification.

The plastic state of the brain, or period of infancy, is extended in mankind far longer than in other animals. In the lowest form of life where reproduction is by fission, there is no infancy at all, but all along the line as mental capacity develops infancy increases, until in man we arbitrarily place it at twenty-one years. In other words, twenty-one years, at least, are necessary to prepare the brain for its serious life work. "If the brain cells are allowed to pass the plastic stage without being subjected to the proper stimuli or training, they will never fully develop. The majority of adults have many undeveloped spots in their brains."[4] The boy that cannot spell but seldom learns to spell when he is a man, and the same may be said about observation and other qualities that develop in early childhood. "During a period in the life of every boy and girl, the nervous system is ripe for a certain course of action. If this period is allowed to pass without exercise, in the special direction fitted to secure various kinds of enjoyment, the early plasticity is soon lost and this exercise, if attempted later, will prove irksome."[4] We have learned that physical and manual training and the cultivation of the senses are true mental stimuli, and the educational curriculum is now enriched by the addition of many exercises, adapted to the age of the child, not heretofore classed as mental discipline. We have learned that scholars should be classified according to mental ability rather than, like eggs, by their size. The question, therefore, is not at what age a child should or should not go to school, but what school it should go to, and what methods are used in the school to educate its scholars. For, "As a child learns not only rapidly, but with intense pleasure from the time of its birth to the time he starts to school, simply because the activities in which he spontaneously engages are fitted to his state of development, so he will continue to learn rapidly and with intense pleasure, after he starts to school, if the work he is set to doing is adapted to his state of development."[5]

There is another serious truth, "Education is not transformation of an immaterial entity, which is ageless and capable of being influenced as easily at one age as another, at fifty as at fifteen, and becoming at any late start all that it might ever have been. It is always too late, as far as our present knowledge goes, to be what one might have been."[2] If this is so no child can commence to be educated too young. Prof. James says: "Many of our impulsive tendencies ripen at a certain period and if the appropriate objects be then and there furnished, habits of conduct toward them are acquired which last. But if the objects be not forthcoming then the impulse may die out before the habit is formed and later may be hard to teach."[7] I wonder if doctors usually take this momentous truth into consideration when they advise keeping a child out of school. Do they realize, "According as a function receives daily exercise or not, the child becomes a different kind of being in later life?"[5] It is not the little item of knowledge a child may fail to learn when absent from school, but the forging of a weak link in its chain of physiologic development, a link that possibly may never afterward be strengthened, that should be carefully considered, before we hasten to give advice in regard to school attendance.

Of course, the various phases in the growth of the brain are not clearly defined, but blend into each other as do the colors of the rainbow. The functions, if there are such divisions, are not developed separately one after another, but like notes in a musical chord are simultaneous, yet as every chord in a great harmony has a fundamental note, so in each stage of the minds' development there seems to be some tendency that is more dominant than the other. Some of these tendencies are quite evident and are well known, but we are just on the threshold of the study of the various epochs in psychologic development. Ambassador Brice, in his Carnegie Institute address said: "The study of the natural sciences has led to a more careful observation of facts and is leading mental philosophy out of the realm of mere speculation into the region of practical physiologic psychology." Here again the observant physician may qualify himself to give council to the educator.

The eye may always have sight, but it must be gradually trained into discerning colors. The ear may always perceive sound, yet it has to learn music. The process is mostly mental and is the result of growth. Just when these perceptions can best be trained is a matter for observation and study. May color blindness and deafness to musical pitch be caused by lack of careful cultivation at the proper psychological moment? Says Horne, "To omit the most careful and systematic training of the senses while the sensory regions of the brain are growing * * * is to inhibit the best development of these highest powers of consciousness. To leave certain portions of the nervous system neglected is to write early decay on these parts."[2] On the other hand great wisdom should be exercised in not pushing a child beyond its years. Says Dr. Oppenheim, "Every subject should, in its claim for a place in the educational curriculum, be judged by its adaptability to the child's growth."[3] I was once visiting a large public school when the city superintendent wrote a sentence on the blackboard and called a child to punctuate it. It was done correctly. Turning to me he said: "You could not have done that when you were that old." I replied: "I thank heaven I could not, for that task is far beyond that child's brain development." Hours had been spent in teaching it punctuation which might have been learned in a few minutes, when the child was old enough to understand grammar. Not only was this a waste of time, but useful and appropriate teaching had been crowded out and possibly the brain injured by its unsuitable exercise. "Demands made by teachers on pupils should be limited to their present brain development * * * methods of instruction should just keep pace with mental growth, neither forge ahead nor lag behind."[2] Obedience to this law is just as vital to the mind's health as is the correct amount of exercise necessary to muscular perfection, for injudicious training in either leads to weakness instead of to strength. Says Herbert Spencer: "What with perceptions unnaturally dulled by early thwartings and coerced attention to books—what with the mental confusion produced by teaching subjects before they can be understood * * * and what with taxing the mind to excess, there are few minds as efficient as they might be."[9]

Mental physiology is a live and growing subject. "Even two thousand years ago, the chief mental facts were well known, while the most fundamental questions of brain physiology are still under lively discussion."[10] While the microscope has not revealed any definite facts concerning the relation of the brain to the mind, yet it has shown the wonderfully delicate texture of the brain and its intricate cell structure. Those who hold that the memory, for instance, is the result of cell habit cannot prove it by the microscope, "But as marvelous memories are not commonly associated with great intellectual power,"[11] it is believed that eventually we will be able to note what peculiar brain structure characterises these two functions. Be that as it may, they occupy the extremes of mental development and should not be forced together too violently in educational processes. Memory seems to influence the instincts and is markedly manifested in many domestic animals. In early childhood it is strongest and declines with advancing years. Whether the brain structure influencing memory can be changed is in doubt, but certainly the memory can be improved, either by brain habit, or power of association and observation. Memory is certainly very elastic and practically the more it is used and trusted the more wonderful it becomes. I have never known anyone to be injured by the excessive use of memory alone. The memory feats of the Chinese appear impossible to us. But as all brains are not capable of equal intelligence, so they cannot be made to produce equally good memories. In other words, memory is not solely the result of cultivation. Closely allied to memory is the ability to learn spoken languages, and like memory it is one of the earliest manifestations of the mind. "Children learn language with the greatest facility when they hear it spoken and the ability to learn a new language diminishes steadily with advancing age."[12] Mimicry is one of the earliest childish habits and it is remarkable the connection between a good mimic and the ability to learn a new language easily. The vocal apparatus must be cultivated in childhood to be able to pronounce correctly words of a foreign language. The ear must be trained early in life to recognize the articulate sounds of any nationality, or it will never be able to do so accurately. So the language center in the brain has its period of plastic receptivity in our earliest years. An infant of English parents brought up in a German or French family, can learn their language as easily and as accurately as if native born. "Modern languages learned not from books, but from conversations during walks, games and "talks," should form a part of the course of study of very young children, whose speech centers mature very early."[8] Yet we advocate keeping our children out of school until this period is past and then require them to spend years in getting a very indifferent knowledge of these languages in later life. Surely it would be more in harmony with our psychologic knowledge if we took the modern language out of the High Schools and placed them in the kindergarten and early primaries (as do the Japanese), and then followed Oppenheim's advice, "That technical grammar, an abstract study, should not be taught before the High School."[8] Also observation, curiosity, imitation, attention, construction, ownership, etc., have their periods of greatest psychologic activity, more or less well marked and should be so placed in our school curriculum. Even advanced topics have their proper time for study. Prof. Wm. James says, "I think I have seen college students unfitted forever for philosophy, from having taken up the study a year too soon."[7]

If then correct education is to be based upon such erudition, how can we expect our schools to be anything but bad, when they are so often directed by men who do not know the first principle of these laws? Recently in a large city, the central school board changed the text-books notwithstanding the earnest protest of the best principals and teachers. The object undoubtedly was only for someone's pecuniary benefit. In accord with the eternal fitness of things this deadly sin is laid at the door of the county coroner, who is said to have been the politician who manipulated the deal. Who will be held accountable for the injury to the minds of our growing generation? As physicians we have held ourselves somewhat accountable for the physical welfare of children, but have we to wait until they are imbeciles before we become interested in their mental welfare? In many places the curriculum is arranged by men who never heard of psychology, or at most know absolutely nothing concerning its laws. They generally follow the guidance of a designing book publisher, or like farmers, blindly keep on, because their fathers did so before them. The superintendent of our schools may be noted for his illiteracy and incompetency and yet political methods keep him secure in his position. Is it not high time that doctors should become interested and use their knowledge and power to establish our schools more thoroughly on physical and mental laws?

I have not attempted to lay down precepts, not to promulgate laws, but simply to point out a vast field for exploration and cultivation. If I have wandered somewhat into the domain of the educator, it has been done advisedly, that I might impress upon you the scientific importance of my subject and to emphasize the profound necessity for a doctor's advice to the schools.

Authors quoted in the address:

[1] Prof. J. E. Johnston, "Playgrounds."
[2] H. H. Horne, Ph.D., "The Philosophy of Education."
[3] L. H. Gulick, M.D., "The Efficient Life."
[4] R. P. Halleck, "Education of the Central Nervous System."
[5] J. P. Gordy, Ph.D., LL.D., "New Psychology."
[6] B. R. Payne, Ph.D., "Public Elementary School Curricula."
[7] Prof. Wm. James, "Talks on Physiology."
[8] Nathan Openheim, M.D., "The Development of the Child."
[9] Herbert Spencer, "Education."
[10] Prof. Paul Munsterberg, "Psychology and Physiology."
[11] Henry Mardsley, M.D., "Little Masterpieces of Sciences."
[12] Charles A. Mercier, "Psychology, Normal and Morbid."

Books consulted:

"Psychology and Pedagogy," E. G. Lancaster.
"Child Study," Prof. Bain.
"Child from 3 to 7 years," Perez.
"The Mind of the Child," Preyer.
"Psychological Foundation of Education," Harris.
"Adolesence, its Psychology," G. Stanley Hall.
"Some Educational Aspects of Ethics," John McCunn, LL.D.
"Teachers' Handbook of Psychology," Sully.
"The Education of Man," Froebel.

TRANSACTIONS.

BANQUET ROOM, LEXINGTON HOTEL,
CHICAGO, May 30, 1908.

The thirty-third annual meeting convened at 10.30 A. M. with the President, Dr. Thomas D. Davis in the chair, meeting in executive session.

Dr. Edward Jackson, of Denver, moved that the minutes of the last annual meeting be approved as published in the BULLETIN. It was seconded and carried. The Secretary read the minutes of the special conversational meeting held at Pittsburg, on January 2nd and 3rd, 1908. They were adopted upon motion.

The Secretary reported that the Council asked the indulgence of the Academy that it might present its formal report later in the meeting. He presented the following items of business for the present action of the Academy:

1. The following letter from the Chief Statistician of the Bureau of the Census addressed to the Secretary:

As you will see by the reference on page 57 of the enclosed pamphlet, a special Committee on Nomenclature of Diseases has been constituted by the American Medical Association. It is coöperating with the Bureau of the Census, and is desirous of securing the aid of all National Medical Societies in the work of preparing or recommending a satisfactory nomenclature of diseases for the general use of the medical profession in this country, as well as for the special purpose of morbidity, hospital, and mortality statistics. I enclose a letter from Dr. Foster.

I hope your organization will appoint a Committee on Nomenclature of Diseases at its approaching session, the Chairman of which will represent it as a member of the National Committee. Please advise Dr. Foster of your action, and also kindly inform me of the names of the members appointed, to whom I can send copies of the Manual of International Classification of Causes of Death for their use in connection with this work.

Very respectfully,
(signed) CRESSY L. WILBUR, M.D.,
Chief Statistician.

The American Medical Association's Committee on Revision of the Nomenclature and Classification of Diseases having decided to ask for the opinion of various representatives medical bodies on the Royal College of Physicians'

Nomenclature of Diseases, fourth edition (third revision), London, 1906, I, as chairman of the committee, respectfully request that you acquaint me with such criticisms as your honorable body may see fit to make of that book.

Inasmuch as the committee will not be able to make a final report at the Association's meeting for this year, the criticisms may be sent to me at any time within the next six months.

Yours very truly.
(signed) FRANK P. FOSTER.

On motion of Drs. Edward Jackson, of Denver, and L. Connor, of Detroit, it was resolved that a committee of three be appointed by the President in compliance with the request of Dr. Wilbur. The President afterward appointed Drs. F. H. Gerrish, of Portland, Me., H. W. Cattell, of Philadelphia, and W. Mc. N. Miller, of Columbia, Md., on that committee.

The Board of Directors of the John Crerar Library extended an invitation to the Fellows of Academy to visit the library, and on motion of Drs. Charles McIntire, of Easton, Pa., and L. Connor, of Detroit, the invitation was accepted.

The Secretary, continuing the report of the Council, called attention to the button badge prepared for the Academy. It was a reduced *fac simile* of the seal of the Academy, enamelled in light blue and orange, the Academy colors. It is designed to wear this at the meetings with a distinctive ribbon badge to indicate the year. The button badges are to be purchased by those members who desire them. On motion, the report of the Council regarding the badges was adopted.

The Council recommended the acceptance of several resignations which were submitted to the Academy. On motion, the resignations were accepted.

The Council also presented the following applications for admission, recommending their election.

Astley Paston Cooper Ashhurst, Philadelphia.
Stanley P. Black, Pasadena.
George Llewellyn Cole, Los Angeles.
Alfred C. Croftan, Chicago.
Clare Edwin Fraunfelter, Canton, O.
Royce Day Frey, Cleveland.
Dudley Fulton, Los Angeles.

Jane D. Kelly-Sabine, Boston.
Fitch C. E. Mattison, Pasadena.
Walter Franklin Robie, Baldwinsville, Mass.
Henry Sherry, Pasadena.
Amos Ruper Solenberger, Colorado Springs.
Henry B. Stehman, Pasadena.

By unanimous consent, the Secretary was authorized to cast the affirmative ballot for the Academy and the applicants were elected.

The Treasurer submitted his annual report showing a net balance of $510.89 in the active fund, and $710.00 in the permanent fund. On motion, the report was received and referred to an Auditing Committee to be appointed by the President.

The president made the following appointments:

Auditing Committee,
Dr. Joseph K. Weaver, Norristown, Pa.
Dr. Joseph W. Grosvenor, Buffalo.

Nominating Committee,
Dr. L. Connor, Detroit.
Dr. James H. McBride, Pasadena.
Dr. Edward Jackson, Denver.

Dr. Guy Hinsdale, the chairman of the Committee on Foreign Exchanges, was not able to be present, but had sent on the report of the committee, which was read by the Secretary. The committee had addressed a number of letters to sundry associations and journals outside the United States, accompanying the communication with a copy of the BULLETIN. A number of replies had been received and some exchanges agreed to. The recommendation of the report was to send the BULLETIN to the list first written to.

Dr. Casey Wood called attention to a custom prevalent in other countries regarding exchanges, that the difference in subscription price is paid by the journal of smallest cost.

On motion, the report was received and the recommendation referred to the Council.

Action was taken upon the proposed amendments to the Constitution as follows:

(1) Article III., Section 1. The proposed amendment inserts the words "associate members" between the words "fellows" and "and."

Dr. Winfield S. Hall, of Chicago, the originator of the amendment, explained that its purpose was to create a class of membership whereby we could express our appreciation of the valuable contributions made in many of our meetings by those who are not physicians. These are not eligible for honorary membership, and it will be advantageous to us to have many of them in affiliation. As will be seen, when the amendments to the other sections are presented, they are to be subject to the same limitation both as to privileges and numbers as pertain to honorary membership.

Dr. J. W. Grosvenor, of Buffalo, asked if the Constitution or By-laws required the approval of all classes of members by the Council.

The Secretary read from Section 1, Article II., of the By-laws, answering Dr. Grosvenor's question.

The amendment was then adopted.

(2) Article III., Section 2 (1). Substitute the words "baccalaureate or master's degree" for the words "degree of Bachelor of Arts, or Master of Arts," in the present paragraph.

The amendment was adopted.

(3) Article III., Section 3. Substitute the words "Members of" for "gentlemen in" following the words "shall consist of;" and adding to the section the words, "or to medical education."

The amendment was adopted.

(4) Article III. Add a new section, to be known as Section 4, reading as follows:

> Associate members may be elected from among those who are working along Sociologic, Educational or other scientific lines closely related to the work of the Academy, and who have made notable contributions in their respective lines.

Dr. Edwin B. Harvey, of Boston, moved to change the third word in the section from "may" to "shall." The motion was seconded and, after some discussion, the amendment was adopted, and the section as amended was adopted, the section reading:

SECTION 4. Associate members shall be elected from among those working along Sociologic, Educational or other scientific lines closely related to the work of the Academy, and who have made notable contributions in their respective lines.

(5) Make the present Section 4, Section 5, add the words "and associate" after "honorary," the second word in the section; and the word "respectively" after the word "exceed" the sixth word in the unamended section.

The amendments were adopted.

(6) Make the present Section 5, Section 6, and insert "associate" between "fellows" and "and honorary members."

The amendments were adopted.

The new article as amended was adopted as a whole, and reads:

ARTICLE III.—MEMBERSHIP.

SECTION 1. The membership of the Academy shall consist of fellows, associate members, and honorary members.

SECTION 2. The Fellows shall be alumni of respectable institutions of learning, having received therefrom—

(1) The baccalaureate or master's degree after a systematic course of study, preparatory and collegiate; but when a candidate has not received either of these degrees in course, other evidences of a preparatory liberal education, which shall be considered as equivalent to the same by the Council, may be accepted in lieu of a degree by the Academy.

(2) The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of precepters and professors; or

(3) When a candidate is an alumnus of a foreign institution, or institutions, not granting the baccalaureate or master's degree, or that of Doctor of Medicine, a certificate, or certificates, or a license, which shall be considered as equivalent by the council, may be accepted in lieu thereof by the Academy.

(4) The fellows shall be reputable graduates in medicine.

SECTION 3. Honorary members shall consist of members of the medical profession, at home or abroad, who shall have made important contributions to medical science or to medical education.

SECTION 4. Associate members shall be elected from among those working along sociologic, educational or other scientific lines closely related to the work of the Academy, and who have made notable contributions in their respective lines.

SECTION 5. The honorary and associate members shall not exceed respectively five for every one hundred fellows. They shall be entitled to attend the meetings of the Academy and participate in the proceedings, but shall have no right to vote nor hold office.

SECTION 6. The consent, by ballot, of two-thirds of the fellows present shall be necessary for the election of fellows, associate and honorary members.

The remaining amendment altered Article XI., Delegates, to read:

Delegates may be sent by vote of the Academy, or by the Council when the Academy is not in session, to associations whose objects include any phase of medical sociology, and delegates may be received from such associations.

Attention was called to the wording of Article III., Section 4, which had been adopted a few minutes before, and the criticism made that the same words were not used with the same meaning. A substitute was prepared, causing the article to read:

Delegates may be sent by a vote of the Academy, or by the Council when the Academy is not in session to Associations engaged in Sociologic, Educational or other scientific lines of research closely related to the work of the Academy, and delegates may be received from such Association.

On motion the substitute was accepted, and the amendment as thus substituted adopted.

Dr. Helen C. Putnam offered the following:

Resolved, That the President in office and the Secretary, together with three other members to be appointed by the Chair before the final adjournment of the thirty-third annual session constitute an executive committee with power to organize and conduct for the Academy a *Conference on the Prevention of Infant Mortality* to be held in the winter of 1909–10; the object primarily being to direct public attention to the problem through bringing together the experience of various social agencies dealing with it.

The motion was seconded and referred to the Council.

The chairman of the Committee of Arrangements called attention to the Symposium on Monday afternoon, suggesting that as it was a theme of general interest, it might be worth while to invite the public.

On motion, the Committee of Arrangements was authorized to invite persons not members of the profession to that session.

At this point the Academy arrested its executive session and at 11.30 A. M. began the first open session.

The corresponding delegates who had registered thus far were introduced to the Academy and welcomed by the President.

The Academy then listened to the report of the Committee on the Best Means for the Medical Profession to take Part in the Education of the General Public in Medical Matters through Publications, etc., read by Dr. Edward Jackson, Denver, chairman of the committee.

The report was discussed by Drs. Casey A. Wood, Chicago; L. Connor, Detroit; Carl von Klein, Chicago; Philip Zenner, Cincinnati; R. A. Goodwin, Chicago; and J. K. Weaver, Norristown, Pa.

Pending further discussion, the Academy took recess for luncheon, after an announcement by the chairman of the Committee of Arrangements, that through the courtesy of one of the fellows of the Academy—Dr. Thomas A. Woodruff—who was also president of the Calumet Club, the courtesies of the club were extended to the fellows.

The Academy reconvened and the discussion of the report was continued by Drs. T. H. Shastid, Marion, Ill.; J. H. Tressell, Alliance, O.; W. L. Secor, La Grange, Ill.; H. I. McNeill, Newman, Ill.; Helen C. Putnam, Providence, R. I.; Charles McIntire, Easton, Penna.; L. Connor, Detroit; and was closed by Dr. Edward Jackson.

The report was, on motion, referred to the Council.

Dr. James H. McBride, Vice-President, in the chair.

Dr. Helen C. Putnam, of Providence, read her report as delegate to the International Congress on School Hygiene, in London, August 5th to 10th, 1907.

The report was discussed by Drs. Philip Zenner, Cincinnati; Horace D. Arnold, Boston; and Dr. Putnam, closing.

The chairman of the Committee on Conference with Educational Institutions on Medical Education, Dr. Charles McIntire, of Easton, Pa., read the following report:

Your committee reports holding an interesting and valuable conference with a number of educators at Pittsburg on the 2nd and 3d of January, 1908.

For the purpose of permitting new members to be elected, it was made a special meeting of the Academy. The only other business transacted was the appointment of a committee consisting of Drs. John L. Heffron and Murray Galt Motter with the Rev. A. B. Church, President of Buchtel College, Dr. Joseph H. Raymond, Secretary of the Long Island College Hospital, and R. B. Blake of Lehigh University, by invitation. This committee is to formulate recommendations the result of the conference and report them at this meeting.

Your committee is of the opinion that there is a definite field of effort for the Academy in the present discussion of the educational requirements of the intending physician, *viz.*: the harmonizing of the courses in the literary and medical colleges, so that emphasis be given to the desirability (not necessity) of a broad liberal culture precedent to the study of medicine and the shaping of the liberal culture course to include those sciences which lie at the foundation of medicine, that they may not be taken again in a medical course. This will result either in saving time to the college man in the medical school or giving him fuller instruction in the applied science and in the art of medicine as may be determined upon as the result of further investigation.

Your committee feels that only a beginning has been made and recommends that the Academy arranges for a similar conference between now and the next annual meeting.

He also read the report of the special committee to formulate conclusions from the conference at Pittsburg, January 2nd and 3rd, 1908, of which committee Dr. John L. Heffron, of Syracuse, was chairman. Dr. Heffron was kept from attending the meeting by college duties.

Dr. Charles S. Sheldon, of Madison, Wis., reported, as the delegate of the Academy, the annual conference of the Council on Medical Education of the American Medical Association, at Chicago, April 13th, 1908.

The reports were discussed by Drs. T. H. Shastid, Marion, Ill.; J. W. Grosvenor, Buffalo; L. Connor, Detroit; J. H. Tressell, Alliance, O.; Emma B. Culbertson, Boston; L. Harrison Mettler, Chicago; E. B. Harvey, Boston; Winfield S. Hall, Chicago; Helen C. Putnam, Providence; Walter E. Jones, Chicago; and Charles McIntire, in closing.

On motion of Dr. Edward Jackson, and duly seconded, the reports were referred to the Council to bring before the Academy the formal resolution it may seem proper.

The Academy then adjourned until half-past eight in the evening.

At 8.30 P. M. the Academy reconvened, with Ex-President Henry O. Marcy in the chair.

Dr. Thomas D. Davis, the president of the Academy, was introduced and delivered the annual address, taking as his subject: "The Doctor and School Advice."[1]

At the conclusion of the address, a very hearty vote of thanks was tendered Dr. Davis, and the Academy adjourned until Monday morning.

CHICAGO, June 1, 1908.

The Academy met in executive session at 10 A. M., President Davis in the chair. The Council presented its annual report, as follows:

The Council has performed the routine duties since the adjournment at Atlantic City last June. It reports the holding of a successful special meeting at Pittsburg, Penna., on the 2d and 3d of January last—the first in the history of the Academy. The purpose for the meeting was a conference with teachers both in colleges and medical schools on the medical curriculum for the purpose of paving the way for a more intimate coöperation between the two grades of colleges in preparing a student for medicine. As this meeting will be the subject of two reports, we will not take the time to enlarge upon it. At this meeting ten were elected to membership in the Academy.

Preparations for the annual meeting were made through committees. Dr. Donly C. Hawley being the chairman of the program committee, and Drs. Casey A. Wood and S. C. Stanton, the chairman and secretary, respectively, of the Committee of Arrangements. Their work is before you in the program.

The item of greatest importance for your consideration is the working of the new financial policy, whereby the dues have been made three dollars and the BULLETIN sent to all who pay. As a relief to the treasury, it has worked wonders; the Treasurer will report all bills paid and a substantial balance on hand. But, as was expected, it is diminishing the size of the Academy. We will have no less than 23 resignations to present to you for your consideration; while 10 have permitted their names to be placed on the roll of suspended members by not paying dues for three years. Is there not something we can do to prevent this decrease, or, at least, diminish it? The chief cause for the desire to be relieved of membership as it appears to your Council, is a lack of interest in the subjects discussed by the Academy. If this be a correct deduction, then an increase in the number of topics, or a broadening out, will be helpful. It may be, that while the subjects of themselves may appear to many to be of importance, the mere academic discussion does not appeal to the practical mind of this practical age, and it might be well to apply to the profession some of the conclusions reached by our discussions.

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[1] See page 205, this number.

The Council, therefore, suggests that to the present objects under discussion you add others more intimately related to the physician's personal welfare and to the science of medicine.

For the first subject it suggests the perennial topic of hospitals.

The hospital problem is a complex social question. It can be answered neither by a demonstration nor a discussion. It ought to be carefully investigated and as the proper methods for a fair procedure are determined, efforts should be made to put them into practice under supervision that the errors or weaknesses of the method may he discovered and corrected.

This complexity may be seen in the statement that there are at least ten factors in the problem itself. These include:

1. The proper renumeration of the medical staff.

A suit was brought this year (1908) against a Transit Company in one of the courts of Pennsylvania for damages, the result of injuries received on a trolley car. The plaintiff was in a hospital from July 26th to November 20th, 1907. She asks for $5,137 and itemizes her claim as follows: Compensation for pain and suffering, $2,500, compensation for permanent injuries, $2,500, nurses' fees $132, medical service $5.

2. The effect of the modern hospital upon the physician without a hospital appointment.

3. The social condition of many, who, while in health, are

in comfortable circumstances, do not afford facilities for proper care when ill. This is altogether independent of the financial condition—dwellers in apartments or boarding. It is almost necessary that these should go to a hospital.

4. The additional expense of modern methods of caring for the sick. The trained nurse costs not only her salary, but entails additional service to minister to her demands.

5. The economic problem of those who cannot afford home treatment, but are able to pay something for care, possibly also for medical services.

6. The old question: Who should be the recipients of the charities of a hospital?

7. The relation of industrial corporations to general hospitals.

8. Incidentally, the support of hospitals. How much of the general funds should be expended for the care of pay patients, including in this an estimate of the value of the services of the medical staff?

9. The general management of the hospital—to what extent should it be under medical control?

10. The relation of physicians to hospitals. Should one serve on the staff of more than one? What should be the character of the service, for a term of weeks, or continuous? etc.

Other questions might be added. These will suffice to show the complexity of the general problem. Much has been done towards the investigation of many of these individual questions. Social students complain that the principals of social science are not observed in hospital management, which is evidence that the whole subject has not yet been grasped.

Before a rational solution can be had, many conferences must be held, participated in by many classes of people, in various parts of the country. Would it not be wise to appoint a committee either to arrange an initial conference during the year, or, possibly a better procedure, to devise a plan for conducting such conferences and bringing the conclusions to the attention of hospitals, keeping in touch with the practical working of such conclusions when tried and report at the next annual meeting? In other words, to make the Academy the active bureau to initiate plans, give them publicity and follow up the results in an effort to adjust our American hospitals to the present social life of Americans?

For the second subject: The influence of social conditions on pathology. Let us inaugurate such an investigation. The two problems that at once present themselves are: (1) The character of the pathologic changes apt to take place under different social conditions; and (2), Whether the same disease process will be apt to show variations in the pathologic conditions because of a difference in the social status. This is a field that will afford a direct contribution to our knowledge of disease and aid in combating it.

A resolution was submitted by Dr. Woods Hutchinson at the last executive session at the meeting last year. Under the by-laws, it was referred to the Council to be reported on at the next executive session. The resolution reads:

Resolved, That in interpreting the clause of the constitution providing that other evidences of a liberal education may be accepted as the equivalent of a bachelor's degree, the honorable and creditable practice of medicine for five years and the presentation of evidence of original work done, either literary or practical, along the lines of the interests and aims of the Academy shall be regarded as such equivalent.

As this is a subject of importance, the Council at its last meeting at Atlantic City directed that the attention of the members of the Council be brought to it during the year, and that no decision be made as to a recommendation until the meeting at the next year. Accordingly, this subject was discussed along with the letters received from the various members of Council in reply to the Secretary's communication, and we recommend that the resolution be not adopted.

The resolution of Dr. Putnam was considered. It reads:

Resolved, That the President in office and the Secretary, together with three other members to be appointed by the chair before the final adjournment of the 33rd annual session, constitute an executive committee of five with power to organize and conduct for the Academy a *Conference on the Prevention of Infant Mortality* to be held in the winter of 1909–10; the object primarily being to direct public attention to the problem through bringing together the experiences of various social agencies dealing with it.

The Council recommends the adoption of this resolution.

It is in line with the suggestion made in the previous part of the report.

The Council suggests that the recommendation on the Committee on Foreign Exchanges be modified so as to recommend the continuing the sending of the BULLETIN to those publications that are reciprocating the courtesy, and that you adopt the modified resolution.

The recommendation of the Committee on Conference with Colleges was considered and the Council recommends the adoption of the following:

Resolved, That the committee on conference with Colleges be continued and instructed to make arrangements for another conference during the coming year, and that the Academy urge that the standard for the preliminary and medical training of intending physicians be expressed in terms of educational attainment rather than in terms of a definite time devoted to the study.

The President's address contained one recommendation, to wit: That a committee be appointed to secure an act of Congress incorporating the Academy, if such an act can be secured. The Council recommends the appointment of a committee for the purpose.

The Committee to Consider and Report upon the Best Means for the Medical Profession to take part in the Education of the General Public in Health Matters, made the following recommendation:

Your committee recommends to the individual Fellows of the Academy an active interest in the various education movements referred to in this report. That the Academy itself continue its studies, discussions and recommendations regarding the teaching of physiology and hygiene in the schools. That it encourage original papers on discussions bearing on the education of the public in medical matters, and provide for exchange with publications devoted to education and popular science. And that at an early meeting it arrange for a discussion of the education of the public by the physician in active practice through his patient.

The Council recommends the adoption of this recommendation and the reference of that part of it relating to papers and discussions at the annual meeting to the Program Committee.

It was learned this morning that the National Confederation of State Medical Examing and Licensing Boards was in session at this Hotel. The council has extended them an invitation to be present and take part in the discussion of the Report of the Committee on a Medical Practice Act.

We conclude the report with our customary necrologic list.

1906, November 28.
Dr. Hiram R. Mills, Port Huron, Mich. A. B., Univ. of Michigan, 1861, M.D., *Ibid.*, 1866. Elected, 1889.

1907, January 31.
Dr. Edwin R. Lewis, Indianapolis, Ind. A.B., Amherst, 1861; M.D., Harvard, 1867. Elected 1887.

" Mar. 12.
Dr. Percy de la Roche, Philadelphia. A.B., Georgetown, 1853; M.D., Univ. Penna., 1856. Elected 1897.

" May 21.
Dr. John H. Packard, Philadelphia. A.B., Univ. Penna., 1850; M.D., *Ibid.*, 1853. Elected 1889.

" June 12.
Dr. Charles E. Cadwalader, Philadelphia. A.B., Univ. Penna., 1858; M.D., *Ibid.*, 1861. Elected 1882.

" June 18.
Dr. George Wheaton Carr, Providence, R. I. A.B., Brown, 1857; M.D., Univ. Penna., 1860. Elected 1881.

" August 3.
Dr. William Thomson, Philadelphia. No Academic degree, M.D., Jefferson, 1855. Elected 1897.

" September 1.
Dr. Gaylord P. Clark, Syracuse. A.B., Williams, 1877; A.M., *Ibid.*, 1880; M.D., Syracuse Univ., 1880. Elected 1906.

" September 27.
Dr. James F. R. Appleby, Washington, D. C. A.B., Lafayette, 1864; M.D., Georgetown, 1868; A.M., Lafayette 1879. Elected 1879.

" November 30.
Dr. George F. Shrady, New York. M.D., Columbia, 1858; A.M., Yale, 1869. Elected 1878. Vice President, 1883.

" December 22.
Dr. Henry P. Loomis, New York. A.B., Princeton, 1880; M.D., Univ. of the City of New York, 1883. Elected 1906.

1908, February 5.
Dr. Lawrence E. Holmes, Asheville, N. C. A.B., Univ. of Tennessee, 1894; M.D., Univ. of Penna., 1897. Elected 1904.

1908, February—.

Dr. John H. Coverly, Brooklyn. M.D., Glasgow University, 1865. Elected 1897.

" February 23.

Dr. J. B. Probasco, Plainfield, N. J. Ph.B., Bucknell, 1865; M.D., Univ. Penna., 1869. Elected 1897.

" April 1.

Dr. Frederic Corss, Kingston, Penna. A.B., Lafayette, 1862; M.D., Univ. Penna., 1866. Elected 1898.

Dr. Henry E. Dwight, Philadelphia. A.B., Yale, 1852; M.D., Univ. Penna., 1867; D.D., Univ. Washington and Lee 1882. Elected 1882.

" April 11.

Dr. George Eben Thompson, Boston. B.S., Dartmouth, 1879; M.D., Harvard, 1884. Elected 1890.

" April 27.

Dr. Thomas Harper, Philadelphia. A.B., Univ. of Penna., 1840; M.D., *Ibid.*, 1843. Elected 1882.

" May 20.

Dr. Grosvenor R. Trowbridge Buffalo. A.B., Williams, 1884; M.D., Univ. of Buffalo, 1887. Elected 1890.

" May 23.

Dr. George Gallagher, Hopkins, Brooklyn. A.B., Hobart, 1862; M.D., Univ. of Penna., 1868. Elected 1882.

Date not known.

Dr. W. D. Kearns, Pittsburgh. A.B., Jefferson, 1851; M.D., Univ. of the City of New York, 1857. Elected 1886.

On motion, the report was received and the recommendations were considered seriatim.

The first recommendation, relating to subjects for discussion by the Academy and the advisability of discussing some of them in special conferences, was, on motion, referred to the Committee on Program.

The second recommendation, that the Academy does not adopt the resolution proposed at the last session of the last meeting by Dr. Woods Hutchinson was, on motion, concurred in and the resolution was not adopted.

The third recommendation, regarding the resolution of Dr. Putnam to arrange for a conference on the Prevention of Infant

Mortality was agreed to and on motion of Dr. Edward Jackson, duly seconded, the resolution was adopted.

The Academy accepted the modification of the recommendation of the Committee on Foreign Exchanges, and adopted it.

The resolution prepared by the Council authorizing another Conference with educational institutions was adopted.

The sixth recommendation, that the Academy approve the recommendation of the President in his address to appoint a committee to see if an act incorporating the Academy by Congress was agreed to, and the president authorized to appoint a committee of five for the purpose.

The President subsequently appointed Dr. Donly C. Hawley, Burlington, Vt. (Chairman); George N. Acker, and Murray Galt Motter, Washington; Edward Jackson, Denver; and Alexander R. Craig, Philadelphia, as the Committee.

The recommendation of the Committee on Education of the Public was adopted and that part of it which related to program was referred to the Committee on Program, as suggested by the Council.

The report of the Council was then adopted as a whole.

The Secretary presented some additional resignations with the recommendation of Council that they be accepted, with a single exception. The exception was taken to a gentleman in arrears at the time of presenting the resignation. It was recommended to accept his resignation to take effect when the charges against him at the time of presenting his resignation were paid. On motion, the resignations were accepted, with the proviso as to one of them as suggested.

The Council recommended the election of Prof. Henry Baldwin Ward, Ph.D., Dean of the College of Medicine and Head Professor of Zoology in the University of Nebraska, to associate membership.

On motion, the Secretary was authorized to cast the ballot for the Academy, and he was elected.

The Academy recommended the election to fellowship of Dr. George Washington Gay, of Boston. The Secretary was instructed to cast a single ballot in his favor by the Academy and Dr. Gay was elected.

Dr. Helen C. Putnam proposed the following for associate membership.

Edward Thomas Devine, New York, Editor of *Charities and the Commons*, A.B., Cornell Coll. (Iowa), 1887; A.M., *Ibid.*, 1890; Ph.D., Univ. of Iowa, 1893; LL.D., Cornell Coll., 1904.

Jane Addams, LL.D., Chicago; head of the Hull House, author of *Democracy and Social Ethics*, etc.

Rev. Graham Taylor, Chicago; president and professor of Social Economics, Chicago Theological Seminary; Associate Editor of *Charities and the Commons*; a graduate of Rutgers.

Samuel McCune Lindsay, New York; Director New York School of Philanthropy, Ph.B., Univ. of Penna., 1889; Ph.D., Univ. of Halle, 1892.

Rev. Charles Richmond Henderson, Chicago; professor of Sociology, Univ. of Chicago; A.B., Univ. of Chicago (old), 1870; A.M., *Ibid.*, 1873; B.D., *Ibid.*, 1873; B.D., Baptist Union Theological Seminary, 1885; Ph.D., Univ. of Leipzig, 1901.

Dr. S. Adolphus Knopf, of New York, proposed the name:

Maximilian P. E. Groszman, Pd.D., Plainfield, N. J.; president of the National Association for the Study and Education of Exceptional Children.

These proposals were referred to the Council.

The Academy rose from executive session and entered upon the open session for the day.

The first paper on the program was the Report of the Committee to Collect Data as to the Amount of Damage done by Alcohol in Moderate Drinkers.

Dr. Woods Hutchinson, the chairman of the committee, sent a personal statement showing the wide range of opinions expressed in the replies to the questionnaire sent out by the committee, and asking for the continuance of the committee. This was read by the Secretary, who suggested that it be received as a report of progress and that the committee be continued.

Dr. J. W. Grosvenor, the only member of the committee present, said that it had been hoped that more definite questions might have been formulated and thus secure definite and accurate data on the subject.

Dr. Winfield S. Hall moved the adoption of the suggestion of the Secretary that the report be accepted as one of progress and that the committee be continued. The motion was seconded and adopted.

The corresponding delegates who had registered since the session of Saturday morning were introduced to the Academy.

The report of the committee to prepare a Draft of an Act to Create a State Board of Medical Examiners, was read by the chairman, Dr. McIntire. After an extended discussion, it was decided to take up each section of proposed act in order. Quite a diversity of opinion was developed, and was still under discussion when the time for recess occurred. As it was evident a final conclusion could not be reached at the meeting, the subject was recommitted to the committee for another report at the next annual meeting, the committee, in the meantime, to seek assistance of the members of the Academy, to learn of the constitutional requirements in the various states.

The Academy took recess at this point until 3.00 P.M., lunching together in the social session in the interval.

The Academy reassembled at 3.00 P.M. and entered upon the consideration of the Symposium for the year: "The Place of Woman in the Modern Business World as Affecting Home-life, the Marital Relation, Health, Morality and the Future of the Race."

The following papers were read:

1. As Affecting the Home-life and the Marital Relation. Dr. A. Stewart Lobingier, Los Angeles. Read by the Secretary.

2. As Affecting Health. Dr. L. Duncan Bulkley, New York. Read by the Secretary.

3. As Affecting Health and Morals. Dr. Norman Bridge, Los Angeles. Read by Dr. J. H. McBride.

4. As Affecting the Future of the Race. Dr. Otto Juettner, Cincinnati.

5. Female Labor as a Factor in Social Life. Dr. A. L. Benedict, Buffalo. Read by the Secretary.

6. The Influence of the Modern Methods of Education upon Women. Dr. George H. Hoxie, Kansas City, Mo.

The general discussion was participated in by Drs. Helen C. Putnam, Providence; Emma B. Culbertson, Boston; Edward

Jackson, Denver; J. H. Tressell, Alliance, O.; Donly C. Hawley, Burlington, Vt.; F. F. Lawrence, Columbus, O.; Henry B. Ward, Lincoln, Neb.; L. Connor, Detroit; and H. O. Marcy, Boston.

At the conclusion of the discussion the Academy entered into executive session.

The nominating committee presented the following report:

For President,
  Dr. Helen C. Putnam, Providence.
For Vice-Presidents,
  Dr. Charles S. Sheldon, Madison, Wis.
  Dr. L. Harrison Mettler, Chicago.
  Dr. Joseph K. Weaver, Norristown, Pa.
  Dr. Norman Bridge, Los Angeles.
For Secretary and Treasurer,
  Dr. Charles McIntire, Easton, Pa.
For Assistant Secretary,
  Dr. A. R. Craig, Philadelphia.

On motion, the President was instructed to cast the ballot for the Academy in favor of the nominees, which was done and they were elected.

The Secretary read the report of the Council recommending the election to associate membership the following:

Edward T. Devine, New York.
Samuel McCune Lindsay, New York.
Jane Addams, Chicago.
Graham Taylor, Chicago.
Charles R. Henderson, Chicago.
Maximilian P. E. Groszmann, Plainfield, N. J.

On motion, the Secretary was instructed to cast a ballot for the Academy in favor of these proposals. This was done and they were elected.

Dr. Winfield S. Hall moved that the appointment of the committee to arrange for a conference on Infant Mortality be deferred, and that the president-elect be instructed to appoint it at her convenience. The motion was seconded and adopted.

Dr. Thomas D. Davis, the retiring president, appointed a committee to escort to the chair Dr. Helen C. Putnam, the president-elect.

On motion, the President was given the privilege to make her appointments at her leisure.

On motion of Dr. Edward Jackson, the thanks of the Academy were tendered to the retiring officers, to the local committee of arrangements, to the management of the John Crerar Library and to the proprietor of the Lexington Hotel, each for their efforts, which combined had made the present meeting so profitable and so pleasant.

On motion the Academy adjourned.

The president has appointed as the additional members of the Council, Drs. Emma B. Culbertson, Boston; Ella B. Everett, Philadelphia; Egbert LeFevre, New York; George S. Matthews, Providence; and W. Blair Stewart, Atlantic City. Dr. Stewart is also the Chairman of the Committee of Arrangements, along with Dr. Ruth Webster Lathrop, Philadelphia, and Drs. W. Edgar Darnall, J. Addison Joy and W. P. Conway, Atlantic City.

OBSERVATIONS IN PASSING.

THE 1908 MEETING: AN IMPRESSION.

There were some grumbles; of course there were; it would not have been a live meeting otherwise. There was much praising, which is more to the point. In some of the praisings there were danger warnings. At last it is being recognized that the dispassionate investigation and the academic presentation of its investigations of subjects of Medical Sociology has kept the Academy in the advance of the thought of the profession, and that several of the activities of other societies are but the carrying on and beyond the conclusions presented by the Academy. This was heard not once, nor twice, nor alone by our own members. The danger foreshadowed in such statements is that of the Academy acquiring the habit of discussing the philosophy of affairs solely, and eventually seeking to present the Utopian.

The Council may not have had this danger formulated when it presented its report, but its recommendation, if carried into practice will prevent this abnormal development.

The Academy was favored by the situation of the room in which the sessions were held, on the parlor floor, of ample size, well lighted, but back from the street and quiet; there was no rivalry between the voices of the speakers and the street noises.

The reports of the various committees showed good work accomplished, and provoked lively discussions. Possibly the discussion was the weakest part of the meeting. Like the Tiber of old, it overflowed its banks, spreading over the territory adjacent to the question itself. It is difficult to decide how far the discussion of a scientific paper should be permitted to wander. Often an excursion from the narrow confines furnishes an illustration or gives a new view-point that illumines the topic. At the same time, the man who keeps to the text creates a happier impression.

All the committees of scientific investigation were continued and two new ones added. One to make arrangement for a conference on the various questions associated with infant mortality;

the other to coöperate with committees of other organizations to secure a proper nomenclature for diseases. This committee was appointed at the invitation of the Census Bureau.

The symposium was on a timely subject, but it was fogged both in its presentation and subsequent discussion. The modern business world is changing domestic conditions in several ways. Were woman not to enter into this world, the home-life, marital relations, health, morality and future welfare of the race would all be affected by these changing conditions. That there are other and important changes due to the entrance of woman into the business world goes without saying; otherwise the influence of woman upon her age and mankind would be nil.

Had this fact been kept clearly in mind, and its corollary that there is no criticism upon women so entering into the sterner activities of life in discussing the effects of their actions, the helpful conclusions to be derived from the symposium could be formulated more easily. As it was, some of the papers were inclined to permit an inference that all such entrance into the activities of life were to be deprecated. And this gave occasion for the defence of such action in the discussion. However, it gave a story for the reporters and greater publicity to the Academy.

Another impression concerning the symposium, was that care was not always taken to distinguish between the fact of woman entering upon the business activities of the present time, a thing of itself made absolutely necessary by the present social conditions, and which, in the abstract has no influence apart from the conditions which make it necessary; and the employment of women in certain callings, where their bread-earning occupation may have a distinct influence apart from the influence the same calling has upon man.

On the whole a good beginning was made and a field of inquiry exploited worth the further and careful exploration of some pains-taking investigator.

The plans for the next year include another conference with educators carrying forward the investigation begun last January. With the first meeting furnishing a foundation, some of the factors in the problem ought to be formulated with definiteness and thus eliminate some of the unknown or unexpressed quantities in the equation. The program for the next annual meeting will be developed by the program committee, Drs. Casey A. Wood, of Chicago, Chairman; Thomas D. Davis, of Pittsburg, with the President of the Academy.

The work of the nominating committee was unusually gratifying—nothing but commendation was heard that Dr. Helen C. Putnam was nominated for president, and this not because she is a woman thoroughly competent to preside, but as the proper recognition of one who has contributed so materially to the Academy's fame by her admirable reports investigating the teaching of hygiene in our public schools. It was graceful in the committee making the nomination at the meeting when the medico-social effects of woman in the modern business world were discussed. Quite possibly though, this was merely a coincidence, and the result would have been the same with any other subject under discussion.

Mirabale dictu, the committee was able to find three out of the four vice-presidents from among those who were present at the meeting. This is so unusual that it is worthy of record as one of the excellent features of the meeting.

The general impression as to the meeting, not of the writer, but of those with whom he conversed, was that the discussions were profitable, put forth in an interesting manner and worthy a society of the pretention of the Academy. The writer can see in the past few years a growth in the enthusiasm of those who are in attendance. It appears as if the day of apology were about over and that the Academy has demonstrated its right to exist and to labor.

It is too soon to formulate any opinion of the change in the constitution, where the relationship of an honorary member may be given to those who are not physicians. To distinguish them, this new class of members are designated associate members.

Much of the pleasant recollections is due to the kindly care and courtesy of the management of the Lexington Hotel. Mr.

Criley gave the subject his personal attention with the resulting comfort of all concerned.

* * *

Philadelphia Academy of Surgery announce that essays in competition for the Samuel D. Gross Prize fifteen hundred dollars will be received until January 1, 1910.

The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th St., Philadelphia," on or before January 1, 1910.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

WILLIAM J. TAYLOR, M.D.,
RICHARD H. HARTE, M.D.,
DEFOREST WILLARD, M.D.,
Trustees.

PHILADELPHIA, June 15th, 1908.

* * *

The Edward N. Gibbs, Memorial Prize, one thousand dollars.

The New York Academy of Medicine announces that the sum of one thousand dollars will be awarded to the author of the best essay in competition for the above mentioned prize.

The subject of the essay shall be "The Etiology, Pathology and Treatment of the Diseases of the Kidney."

Essays must be presented on or before October 1st, 1909.

The three subjects mentioned in the title as above given need not be treated with uniform fullness, but new discovery or fruitful research will be considered the standard of merit.

Each essay must be in English, typewritten, designated by a motto, or device, and accompanied by a sealed envelope, bearing the same motto or device, which shall contain the name and address of the author.

No envelope will be opened except that which accompanied the successful essay.

The Academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it.

The Academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months.

An essay must show originality in order to obtain the prize.

The competition is open to the members of the regular medical profession of the United States.

The original of the successful essay shall be the property of the Academy, and, according to the deed of gift, will be published in its Transactions.

The essays shall be transmitted to the Committee of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize.

JOHN A. WYETH, M.D.,
President.
JOHN H. HUDDLESTON, M.D.,
Recording Secretary.
NEW YORK, June 1, 1908. The New York Academy of Medicine.

⁂

The New York Post-Graduate Medical School and Hospital has recently established a chair of Phthisio-therapy and has called Dr. S. Adolphus Knopf, of New York, a fellow of the American Academy of Medicine, to fill it. To the New York Post-Graduate Medical School belongs the credit of being the first medical school in the world to establish a chair exclusively devoted to the teaching of modern phthisio-therapy. This is an interesting event because it is concomitant with the selection of America as the seat of the International Tuberculosis Congress, which will convene in Washington this year (September 21st to October 12th). The program outlined by Dr. Knopf for his course will include not only lectures on the medical but also on the social and medico-sociological aspect of tuberculosis, akin to some of the themes to which the American Academy of Medicine is especially devoted.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

Abstract of Proceedings.

The Eighteenth Annual Meeting of the National Confederation of the State Medical Examining and Licensing Boards was called to order at the Lexington Hotel, Chicago, Ill., June 1, 1908, 10.25 A.M., by the President, Dr. Geo. W. Webster, Illinois; there were present Drs. Geo. B. Packard, Colorado; M. G. Motter, District of Columbia; Edwin B. Harvey, Massachusetts; W. S. Fullerton, Minnesota; H. B. Ward and A. S. von Mansfelde, Nebraska; N. R. Coleman, Jas. A. Duncan, Wm. J. Means and A. Ravogli, Ohio; J. C. Guernsey, Pennsylvania; T. J. Happell, Tennessee; and L. F. Bennett, Wisconsin.

Dr. Jas. A. Egan, secretary of the Illinois Board, who had been appointed to deliver the address of welcome, was not present.

The report of the secretary-treasurer was read, his resignation laid upon the table, the financial statement and the recommendations referred to the Executive Council and the remainder of the report adopted.

On motion of Dr. Harvey, the Confederation accepted the invitation of the American Academy of Medicine to participate in the discussion of the report of its committee to prepare a draft of an act to create a state board of medical examiners, and adjourned to meet at 2 P.M.

At 2.45 P.M. Dr. Webster called Vice-President Happel to the chair and read his presidential address, the recommendations in which were considered seriatim and acted upon as follows:

1. *In re* amalgamation with the American Confederation of Reciprocating Examining and Licensing Boards, the motion of Dr. Harvey, That the Executive Council be a committee appointed to receive and consider any proposition coming from the American Confederation relative to a merging of the two organizations and to report to this Confederation one year hence, and that the American Confederation be so notified, was unanimously adopted.

2. That a committee of five on the Standing of Medical Colleges be appointed by the chair and authorized to appoint subcommittees on curriculum and equipment; adopted.

3. That a legislative committee of three be appointed by the chair; adopted.

4. That a committee of three on Examinations be appointed by the chair; adopted.

Dr. Happel, for the Auditing Committee, reported that the treasurer's accounts had been examined, compared with the vouchers and found correct, showing a balance in the treasury of $271.15. The report was accepted and the committee discharged.

The following recommendations of the Executive Council were severally adopted:

That the resignation of the Board of Medical Supervisors of the District of Columbia be accepted.

2. That the Executive Council be directed to prepare and announce the programme for the next ensuing meeting of the Confederation, not later than December 1, 1908.

3. That the secretary's bills for $77.90 be approved and ordered paid.

4. That the secretary's expenses, when in attendance upon meetings, be paid from the funds of the Confederation.

5. That the following be elected officers and members of the Executive Council for the ensuing year:

President:
  Dr. T. J. Happel, Tennessee.
Vice-Presidents:
  Dr. A. Ravogli, Ohio.
  Dr. J. C. Guernsey, Pennsylvania.
Executive Council:
  Dr. N. R. Coleman, Ohio.
  Dr. Wm. W. Potter, New York.
  Dr. Edwin B. Harvey, Massachusetts.
  Dr. Henry Beates, Pennsylvania.
  Dr. Chas. A. Tuttle, Connecticut.

On motion, the secretary was directed to cast the ballot for these nominees and they were so elected.

On motion of Dr. Coleman, Dr. M. G. Motter, District of Columbia, was unanimously re-elected secretary-treasurer.

The following committees were announced by the chair:

1. On Standing of Medical Colleges: Drs. Webster, *Chairman*, Beates, Duncan, Bennett and Tuttle.
2. Legislative: Drs. Harvey, *Chairman*, Coleman and Egan.
3. Examinations: Drs. Happel, *Chairman*, Ravogli and Guernsey.

President-elect Happel was then inducted into office and the Confederation adjourned to meet on the day preceding the next annual meeting of the American Medical Association and at the same place.

MURRAY GALT MOTTER, M.D.,
Secretary.

1841 Summit Place, Washington, D. C.

* * *

RHODE ISLAND STATE BOARD OF HEALTH.

Examination July 2–3, 1908.

Name of College.	Passed.	Failed.	Total.
District of Columbia:			
Georgetown University	1	0	1
Maryland:			
Baltimore Medical College	0	2	2
Baltimore University	1	1	2
Massachusetts:			
Boston University	1	0	1
Harvard University	1	0	1
Tufts College	1	0	1
Ohio:			
Miami Medical College	0	1	1
Pennsylvania:			
Medico Chirurgical College	1	0	1
University of Pennsylvania	1	0	1
Virginia:			
University College of Medicine	1	0	1
Canada:			
Laval University	0	1	1
Foreign:			
University of Naples	0	1	1
Non-graduates	0	2	2
Total	8	8	16

President G. Stanley Hall, of Clark University, Worcester, Mass., delivered the address before the graduating class at the recent Committee of the College of Physicians and Surgeons of Boston. His theme was "Psychotherapeutics from the Standpoint of the Psychologist." According to the newspaper reports he said, among other things:

> The primitive medicine man was a witch doctor using mysterious incantation and conjuring diseases to leave the body. Until lately all this was thought to be pure, baseless superstition; but now observant travelers and the best anthropologists with one accord agree that by these barbaric means certain grave disorders with nervous complications are often cured through appeals to the imagination.
>
> The same is true of mind and faith cures, Christian Science, Eddyism, and Doweyism, if you will permit me to group together cures that have very different methods as well as theories, but which agree in that they appeal chiefly to psychic rather than physical elements.
>
> Just as there was a remnant of truth in the theory and practice of the old medicine man, so there is a real and vital nucleus of truth amidst the dreary superstitions and platitudes of modern curists.

ACADEMY PERSONALS.

BRYANT, W. Sohier, of New York, was elected chairman of the Section of Laryngology and Otology of the A. M. A. at Chicago.

CHAPIN, Charles V., Providence, delivered the president's address before the Rhode Island Medical Society on May 26, 1908.

HARVEY, Edwin B., of Boston, has been reappointed—a third term—on the Board of Medical Registration of Massachusetts.

JONES, Philip Mills, San Francisco, was elected a member of the Board of Trustees of the A. M. A. at Chicago.

MILLER, Joseph L., Chicago, was elected chairman of the Section of Practice of Medicine of the A. M. A. at Chicago.

MOULTON, W. Bean, Portland, Me., is secretary of the Maine Medical Association.

MUNRO, John C., Boston, was elected chairman of the Section of Surgery and Anatomy of the A. M. A., at Chicago.

O'DONOVAN, Charles, Baltimore, delivered the president's address before the Medical and Chirurgical Faculty of Maryland in April last.

WOODRUFF, Thomas A., of Chicago, was elected third vice-president of the A. M. A. at Chicago.

NECROLOGY.

May 29.	Horace G. Miller, Providence.
July 13.	Charles E. Swan, Calais, Me.

AFTER CONSULTING HOURS.

PRACTISING IN PIKE.

By Thomas Hall Shastid, A M., M.D., LL.B.

XIV.

SICKNESS IN MY FATHER'S OWN FAMILY.

I have spoken frequently of my father's manner in the sick-room. I have said how calm he was, how firm, how prompt, how steady, how accurate; how self-controlled, self-conquered, self-commanded, self-possessed; how not to be moved for a moment from his presence of mind, how not to be diverted by anything or anybody from adopting what he thought to be the right and proper measure for his patient. "You could tell," I said, "by the compression of his lips, that he meant to save; and you could tell by the calm of his eye that his sympathy had not perverted his judgment." And what I told you about his calmness and his judgment perhaps I did not even sufficiently insist upon. When, however, the sick one happened to be a member of his own family, instead of someone else's, then it was an altogether different matter. His judgment failed him then—failed him utterly, completely, instantaneously. That you could tell by every feature in his countenance.

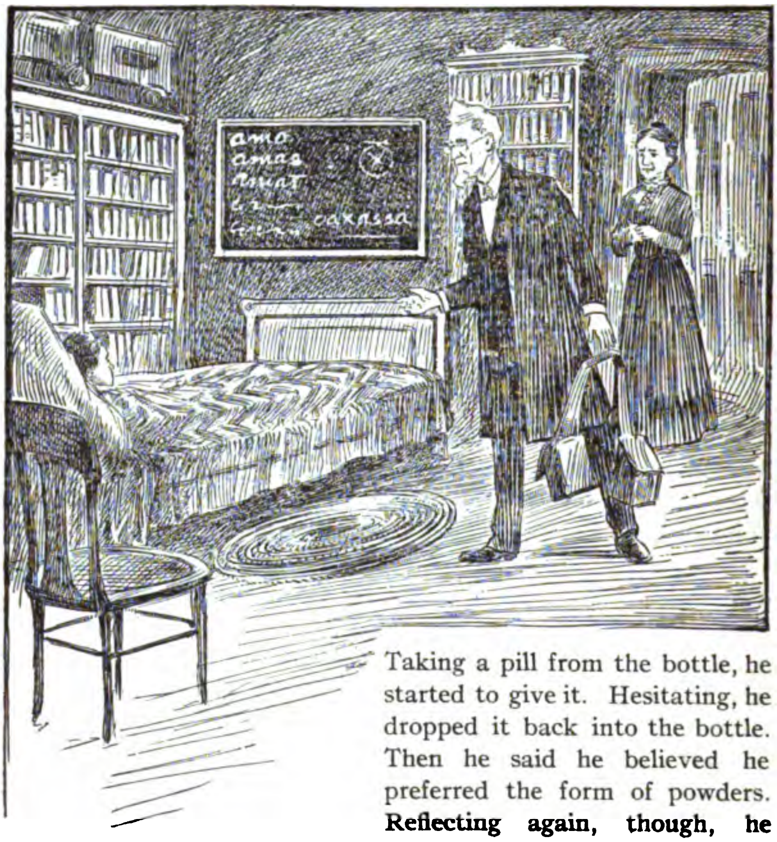
How well I remember the way he acted when the sick one was myself! The trouble might be no more than a cold, or the mumps, or one of those ephemeral fevers so common in childhood—but, no matter how slight the difficulty, so soon as my father knew that I was sick, his eyes grew suddenly wild.

Comes before me vividly the morning when, waking hot and feverish, and finding on my breast a bright glow, I called loudly for my father. My father happened to be in the country; but my mother, running in from the kitchen and observing the glow, at once pronounced my difficulty "rose-rash," and moved me, bed and all, to the sitting-room, where she could the better observe me till my father came. When she heard him, she went to the door, and, opening it only a tiny particle, said, supplicatingly: "Now, father! *Do* try, *do* try, *do* try."

My father dropped his pill-bags, and ran in. "Is Daddy's baby sick?" he cried.

Baby! I was—gracious, how old!

He examined me. Hastily he ran off. Hastily he came back. Hastily he ran off again, returning with books and with pills.



Taking a pill from the bottle, he started to give it. Hesitating, he dropped it back into the bottle. Then he said he believed he preferred the form of powders. Reflecting again, though, he again said "pills." "However," he qualified, "the pills must be fresh made." Back to the office he went, returning with ingredients, with scales, with weights, with boxes, with bottles, with pestle, with mortar, with graduates, with placques. When the pills were half made, he stopped. Looking over at me, he asked whether the sight of the pill-rolling affected me unpleasantly. Thinking he saw some strange, new symptom, he dropped the pills, and, stepping to the bedside, examined me anew. Pulling up the covers to my chin, he tucked them in tightly, though I told him that I felt too warm.

"Better be on the safe side!"

He went to pacing the floor.

Now and then stopping before my mother, he would ask her: "What do you think?"

"What do I think?"

"Yes, what do you think I'd better give him?"

"Oh pshaw! precisely what you'd give anybody else's boy."

"Do you think so?"—staring at her blankly—"and what's that?"

"Oh you go and get Dr. Ludlam. You don't know what you're doing."

And Dr. Ludlam, a big, round-faced, hearty-looking Irishman, he at last went for and brought back with him.

I can see the consultant now, as he smiled down at me with round blue eyes from a pock-marked countenance. The features gave a terrible mirthful contortion. "What shall we do with him, Tommy? Shall we put him in a straight-jacket?"

Still laughing, he took my father away by the arm, and the two talked outside for a minute.

When my father returned, I could see that the consultation had done him good. Still, he did not appear to be satisfied. The most of the time he sat on the lounge, with his feet on a chair, his legs piled over with books, and huge stacks of books lying on the lounge beside him. When my mother spoke, he answered absently.

After awhile, he grew more calm. Coming and sitting on the side of the bed, he talked to me for a long time of some clouds he had seen the day before. "The finest I ever saw!" he exclaimed. "You might have been along, as well as not—don't suppose you learned anything at school. Piled-up masses! torn and heaped up wrecks of other worlds floating into earth's atmosphere! unclaimed continents left over from creation, wandering idly in void space!" etc., etc.

After awhile, he added: "I got to naming some of the peaks. One of them I called 'Mount Desire;' another, 'Expectation;' yet another, 'Absolute Certitude;' still another, 'Exaltation;' and then the last, the very highest of all, 'The Pinnacle of Extreme Upliftedness;' and suddenly—why goodness! I was looking down the precipice of 'Disillusion.' You know what I mean?"

"Oh, yes," I said, smiling, for I knew he referred to his always unsuccessful experiments.

"It does a person good to have a laugh when he's sick, doesn't it?"

I admitted the fact.

Then he added, cautiously, and, I knew, without further thought of the experiments: "Don't laugh too much, though. You might bring up your fever."

In the afternoon a man by the name of Delacrosse came in to have my father go and see his little girl, who, he said, was very sick with the rash.

"Rash!" ejaculated my father, not thinking; "my son is exceedingly sick, sir. I cannot possibly leave him merely to attend on a case of the rash."

"Is he sick?" asked the man, advancing sympathetically to the side of the bed, and looking at me. "What's the matter?"

At this, my mother began laughing.

The joke dawned on my poor, anxious-stricken father, very slowly. "Why he—why he—I—guess he has only the rash, too. Nevertheless, I can't leave him."

"Oh, yes, you can," said my mother. "I'll take good care of him till you get back."

"But you can't *spare* Daddy, can you?" he asked, in a wild appeal to me.

"Yes, for awhile," I answered.

"Well, *Daddy* can't spare *you*," he replied, "even for a minute. And he isn't going to, either."

Had the man been an orator, he would have lost his point

But, not being an orator, he merely held his hat out in front of him and said, in a voice tremulous with emotion:

"Oh Doc, Doc!"

The gesture and the trembling voice touched the father in the doctor and the doctor in the father. My father looked up, touched. Still, he said, firmly:

"I can't go."

The man appealed again, "Doc, Doc!"

"It's no use," insisted my father, nevertheless as though it might be well enough for the man to try once more.

"Doc, *Doc*!" said the man.

That settled it.

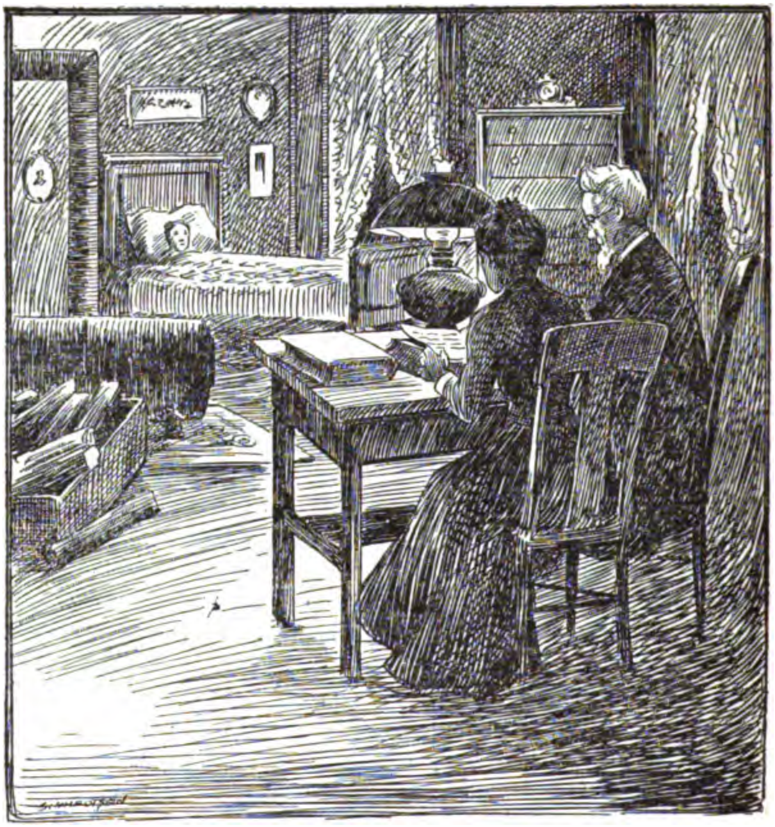
My father rose. "All right," he said, "I'll go."

When I awoke, it was late at night—the old clock told me it was almost twelve. Outside, the wind was rising, and a steady rain was pattering on the roof, now and then making a sort of splashing sound. A feeling of coziness and comfort came over me. Stretching out deliciously between the warm blankets, I watched, through the damper of the stove, the flickering of the wood fire. Now and then I pushed my hand up under the pillow, and counted my dimes. How pleasant it all was—everything silent, except the clock; everything, too, night-changed and lamp-changed. The room, presently it seemed to me, was overbright for an hour so late. Looking around, there, at the stand, in the full glow of the lamp, I saw my father and my mother, sitting together and reading from a single book.

That book I knew to be "Fromartin on Diseases of Children;" so they were reading up my case. Their faces wore a look of such comical anxiety that, like the boy I was, I nearly laughed. Placing my hand across my mouth, though, I held in. There they sat, at twelve o'clock at night, reading up as seriously as though it were a matter of life and death, a case of—the rose-rash. I had no fever; I had no pain; besides, there was nothing at all the matter with me, except—the rose-rash. Nevertheless, there they sat, and pored away, and pored away.

Sometimes they raised their eyes to each other with looks of subtle inquiry, forming with their hushed lips words that

I could not understand. Sometimes, as they turned their eyes to the book again, my father's gaunt forefinger would trace for my mother some unusually significant passage. As I kept looking, the scene grew less funny to me. Presently it seemed rather pretty. Suddenly, with a kind of pang, came to me the thought that my father and my mother were very good to me. I looked all round once more, listening to the wind and the rain. I noted every detail of the little room: the slant, blue-covered almanac; the blackboard, with its Latin and its Greek; the glazed bookcases, full of books; the old, kindly-looking clock, talking to



itself on its mantle; the big nigger-head stove, shining out in a spot on my bed; the wall-paper, figured with red clover-blossoms and yellow vases; the bright pictures, in their deep, old-fashioned frames; and, lastly, there by the stand, in the full glow of the lamp, my father and my mother reading up the subject of the rose-rash as though it were a fine romance of mystery, or war, or love.

Sometimes my father turned a leaf, and then turned it back. Once, as he turned it back, he did so a little too hurriedly and it softly rustled. Up he glanced to see if he had awakened me. But, of course, I "possumed." When I opened my eyes again, he was once more reading.

In the midst of the hush came a click at the gate; a quick step; a knock at the door. My father rose, closed the book, laid it down; and went cat-footed across the room and opened the door so softly that I could scarcely tell the moment when the knob turned. The messenger started to speak aloud, but my father quickly hushed him. The two talked low then for some time—the messenger insistently, my father sternly and obstinately. Still they kept talking. Presently the messenger's voice grew very tender, and I heard him speak of his "only child." My father said something to my mother. She rose and went to the door.

"Oh, yes!" I heard her whisper, "I can take good care of him."

"All right, then," said my father. "I'll go."

Closing the door, he came and stood by the side of the bed, looking down at me. Of course, I "possumed" again.

Then he went and got his buggy-lantern. My mother helped him light it, and then helped him on with his overcoat and raincoat. Taking up his lantern and his saddle-bags, he went out. My mother turned the lamp down, and went and laid herself on the lounge. Presently, I heard my father's step in the barn. Again, I heard him speak to his horse, as he drove from the sidewalk. His lantern flung a group of sliding, yellow panes across the ceiling, as he turned eastward—in the very face of the wind; the slow, suction-like sounds of his horse's hoofs in the deep mud came to me more and more indistinctly, and then more and more indistinctly still, and at last I heard no sound at all except the low sighing of the wind and the splashing of the rain.

LITERATURE NOTES.

REVIEWS.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION. Fourth Annual Conference, held at Chicago, April 13, 1908.[1]

The value of these conferences have been increasing each year, and one is not disappointed in reading this report by any exception to the rule of the past.

Briefly reviewing the principal contents, there is, first, The Chairman's Address, outlining the previous work and the present progress. He gives much valuable information collected through the agency of the Council. The tabulations presented alone make the Transactions of great value. Dr. Bevan gives first a succinct statement of the medical practice legislation in each state, as the character of the board, the requirements for examination, its authority to refuse recognition to colleges deemed unworthy, and the reciprocity provisions, and then a tabular presentation of those medical schools that are demanding more than the "minimum requirement."

Following this address, Dr. N. P. Colwell, the secretary, read his report, continuing, in a manner, the review given by the chairman in his address. Here we find the educational requirements to practise medicine elsewhere than in the United States, as tabulated by the Council. This is also represented graphically by a chart. We are glad to see that he deprecates what he terms the "foot-rule and hour-glass" methods of expressing educational requirements, although defending its employment. It may be noticed in passing that this method halts more in the description of the educational scheme of Great Britain—where a course of five years' length is outlined. This significant statement is found under the statement for Great Britain: "Since the promotion from one grade to another depends entirely on the passing an examination, the time to complete the medical course usually requires six or more years." This reminds us of the statement of Dean Egbert, that it would be preferable for many of the slower minds to take five years for the present medical course, but an odium attaches to the arrangement because the course is defined in terms of time to be given to the study.

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[1] The American Medical Association Bulletin, May 15, 1908.

The report continues by discussing some of the facts presented in the tabular statement, and proceeds to detail in turn the advance in entrance requirements made or promised by a number of our medical schools; the state board requirements of preliminary education, authority to recognize colleges as in good standing, and to accept licenses to practise issued by other states. It also outlines other investigations made under the direction of the Council during the year. Both the address and the report are crowded with valuable information, arranged so as to be easily consulted.

The next subject presented to the Conference was the report of the committee on preliminary education, presented by its chairman, Dr. John H. Long, of Chicago.

Early in the report he states that exception has been taken to the phrase "*preliminary year*" as applied to the studies suggested in the report of last year as in addition to the high school course. The objection being based upon the plea that colleges could not properly give the subjects outlined in less than two years. We quote:

> Further study has not led us to agree with this view as expressing the situation in the best of our colleges, but we must admit that for many of the smaller ones it is possibly not far from correct.

How charmingly characteristic of traditional Chicago to place "best" in antithesis to "smaller." Again we quote:

> In a few cases, it must be said, the replies returned to our letters of enquiry were really evasive and showed a disposition to avoid giving a fair answer to our questions. In two or three instances the replies were equivalent to the statement that the colleges addressed were able to manage their own affairs without advice from our committee. This is doubtless true, for the moment, but we hope other days will bring a change of views.

This last sentence is cryptic. Does it imply a threat? We hope that in its grandest dream for usefulness the Council will never plan to more than counsel.

These short quotations do not represent this excellent report fairly. It is a special plea for the greater training of the medical student in the experimental sciences fundamental to medicine.

But it is only to make a better artisan of the product. Those colleges who think more of training the man, and will not change the curriculum in order to make a modern medical man, are because of this placed on a lower level of excellence, and nowhere in the report do we find a definite plea for developed minds to be fitted to become dextrous, self-reliant practisers. We shall occasion to revert to the latter.

President Eliot, of Harvard, was invited to address the Conference at this point. He sketched the progress of medical education for the past fifty years, as illustrated in the Medical department of his own university. A good point was made when he said: "The way to get endowment for medicine is to improve medical education." President Eliot urged the desirability of making the medical course post graduate, and lauded the elective system in our colleges.

Dr. Charles S. Sheldon, of Madison, Wis., the delegate representing the American Academy of Medicine, was the first to enter the plea for educated men who shall become physicians. Among other things he said:

> We should so plan that those entering the study of medicine are fitted not only to pursue their professional studies most profitably, but that they are trained, also, for the greatest usefulness as men and citizens. We need to make not only doctors but men.

At the conclusion of Dr. Sheldon's remarks, President Eliot requested to make an additional remark. He entered a serious protest to the "combines" or overlapping courses, where, *e. g.*, the first year of a medical course is permitted in lieu of the senior academic. He characterized it as "full of danger to education in general."

The report of the committee on Definition of Medical Colleges in good standing, was submitted by the chairman. We note under the head of "preliminary examination" the reiteration of that terrible indictment against the honesty and honor of the medical profession, that the members of the faculties of our medical schools are not to be trusted to determine whether the student applying for matriculation has complied with the preliminary education requirements or not—viewed in the light of experience, the allegation cannot be denied. This is bad enough, but these offending brethren in the medical schools are not sinners above their fellows. The great need of the medical profession to-day is a sincere and consistent observance of true principles of honor. A sensitive regard of the true and doing the right because it is right. That this spirit is fostered in the traditions of our American colleges, though sometimes not absorbed by the individual, is one of the imponderable reasons why a college training is beneficial.

It is not the purpose of this review to examine the requirements outlined—for one reason it is *ultra crepidam*. The suggested conditions did not receive the unqualified assent of the Dean of the Jefferson Medical College. Dr. Holland presents another side of the discussion and presents it ably. Thus, when he says:

> You cannot teach human anatomy thoroughly by limiting its study to a few months at the very beginning of the medical course. If it is to be enfibered with the mind it must be a part of growth through years.

One involuntarily ejaculates, Amen.

Assent cannot be given so readily to other statements, *e. g.*:

> If he (the intending medical student) knows enough to begin the study of histology and embryology in a literary college, he knows enough to begin them in a medical school, and I hold that the sooner a man takes to the learning of the manipulation necessary to making an efficient doctor the sooner he gets his *tactis eruditis* perfect. * * * It is better for the future doctor to learn by manipulating things that are going to be a help to him than to busy himself with matters of secondary importance. * * * Let us not say that his biologic studies shall be taken in a preliminary year, and that nothing medical shall be included. * * * Some enthusiasts would make him study French, German, botany and zoology. He does not need these subjects; he wants to be a doctor. * * * The State says, for the protection of society: "We want competent, practical, efficient doctors." We may have our scholastic ideals, but society wants medical men who know how to do the things that are necessary at the bedside.

There is much more in the same line. Enough is given to permit the reader to draw his own conclusion. There is enough truth in his criticism to make it worthy of consideration.

The *Pacific Medical Journal* for June, 1908, publishes an article on: "Evolutionary Phases in the State of American Medicine and Medical Education," which is the most specious argument for reverting to the vicious methods of the mid-nineteenth century that it has been our privilege to read for some time past. The author is plausible and keen and holds up weakness in the present efforts to advance the professional ability of the physician by a sound education, in the following paragraph:

> One of the strange attendants upon the new dispensation of medical men has been, that whereas under the older dispensation the best of them began their serious student career after graduation, he of the new dispensation is expected to be a well finished and well varnished products at its graduation. The older student was wont to solidly construct the frame work of his medical edifice and have still sufficient love for study left to carry him as a student for the rest of his life, whereas the new has had so much forced upon him in the way of memorizing study, and has been so much impressed with the idea that this memorization of this or of that material detail was the main end of medical education, that he has ceased to think and has degenerated into a memorizing machine; he has also largely lost his power of originality and of ready initiative—but like to a swinging pendulum, he will soon return to his former grasp and power with new energies born of the contrast, when once the new vicious system of education has been polished.

There is everywhere the evidence of an attempt to crowd, to cram. The evils decried in the many books of the public schools are but repeated. It is desirable to have a man equipped for every emergency, but it is an ideal condition not to be reached even by a stretch of the imagination.

The criticism of the proposed course of the next speech, Prof. F. H. Gerrish, of Bowdoin, is in a very different vein—it is a logical demonstration of the weak points in the report, without any special pleading. The length of this review forbids but a single quotation:

> May I also suggest that the preliminary requirements be stated not in terms of time, but in terms of achievement. What difference does it make to us how long or how short a time a student has been at his work, provided only that he has succeeded in doing it?

The Conference was fortunate in having in attendance Prof. A. H. F. Barbour, of the University of Edinburgh, who has given so much attention to the subject of medical education in Great

Britain; his remarks should be read by all who are interested in the subject. That Great Britain, as he says, has no state examination, is only because the rose is called by another name. It is worthy of consideration, whether it would be possible for us to do away our present system and unite the examination for the degree and the license in a single examination, conducted by examiners, not all of whom, if any, are the members of the faculty of the medical school. It has one advantage; it would be a smaller drain upon the nervous energy of the candidate in his having to take but a single examination.

In closing the discussion on this report, Dean Vaughan said:

> The literary departments of the universities of this country have either got to do more work or cut down their time. Students fool away their time at the literary schools and come out dilettantes, and they are not fit to study medicine or anything else.

Would that the truth contained in this extravagant remark could be impressed upon the mind and heart of every college student in the land!

The remainder of the Conference was devoted to subjects pertaining to the Boards of Medical Examiners, including a Medical Practice Act. The value and interest is sustained to the end. This review has grown beyond proportion, and these subjects must be dismissed with the reference.

CHARLES MCINTIRE.

NOTICES.

BORDERLAND STUDIES. MISCELLANEOUS ADDRESSES AND ESSAYS PERTAINING TO MEDICINE AND THE MEDICAL PROFESSION, AND THEIR RELATION TO GENERAL SCIENCE AND THOUGHT. Vol. II. GEORGE M. GOULD, M.D. Philadelphia: P. Blakiston's Son & Co. 1908. pp. 311.

Dr. Gould makes the reading world his debtor by gathering into a single volume a number of his essays heretofore only accessible by consulting the files of a number of journals.

We have fourteen of these essays—among them: The History of the House; "The Seven Deadly Sins" of Civilization; King Arthur's Medicine; Some Intellectual Weeds of American Growth; The Story and Lessons of an Unknown Hero's Life.

This partial enumeration illustrates the versatility of the author's pen; the articles themselves the variedness of his style—the caustic and the courteous—and the wideness of his reading. One could do far worse and can hardly do better than to take this book in one's satchel as a companion for vacation.

STATE OF NEW YORK. Fourth Annual Report of the Education Department of the School Year ending July 31, 1907. Albany, 1908. pp. 674.

Any report giving a review of the educational institutions and the educational problems of one of our larger states affords much of interest and of value. The New York reports are of particular value to a physician because of the supervisory control exercised by the Regents over medical education, and medical licensure.

The entire title III. "Higher Education," pp. 308ff, is worthy of careful perusal. An excellent history of medical license legislation in New York from the first act of March 23, 1797, to the last, that of March 23, 1907, is to be found in pp. 342ff. After this may be found New York's position on "Reciprocity" and some information regarding the combined degree.

Title X., Our Children, Our Schools and Our Industries, should be read with care by every one interested in the education of American youth. In the various discussions on medical education, the assertion is made frequently that time could be saved in the grade schools. This article shows a weakness in the grades for those who do not expect to enter into professional life. If the reform is to be proposed for saving time for the intending physician, the other reform of proper training for the industries should be entered upon at the same time.

ANNUAL REPORT ON THE THIRD FISCAL YEAR OF THE NATIONAL ASSOCIATION FOR THE STUDY AND EDUCATION OF EXCEPTIONAL CHILDREN. February, 1908.

This commendable organization is the outcome of an effort of Dr. Groszmann to educate a nervous and peculiar boy in 1900. It was found that while there are institutions for the feeble-minded and the plainly defective, those more nearly on the borderline have been neglected. Out of this grew the Groszmann school, which has developed into the organization whose report is under notice. The work is altruistic in that the fees from the scholars do not support the institution, and there is the need of an endowment.

The movement is one worthy of careful investigation. Dr. Groszmann doubtless will be pleased to give any information desired, although much can be learned by reference to articles to be found in this BULLETIN for October, 1906, and April, 1907.

I. AMERICAN HEALTH, the Official Organ of the American Health League. Published Bi-monthly by the Committee of One Hundred. Price, one dollar a year.

II. SCHOOL HYGIENE, issued by the American School Hygiene Association Monthly (except July and August). Price, 50 cents.

These are two new journals, each with a purpose to be commended and worthy the support of our readers. American Health is for the arousing the people to the importance of the proper government supervision of the health of its citizens at least to the same extent as is now bestowed upon swine. School Hygiene is to present the many phases of that important subject to all who may be interested. It is published by D. C. Heath & Co., 120 Boylston St., Boston, Mass.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the previous issue that are not otherwise mentioned in this number. The present list records publications received from May 11 to July 20, 1908, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice or review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notices.

Association of American Medical Colleges—Proceedings of the Eighteenth Annual Meeting held at Cleveland, O., March 16, 17, 1908. (Reserved for a fuller notice).

The American Association of Medical Milk Commissions—Proceedings of The First Annual Session.

University of Illinois Bulletin:

No. 20.—Tests of Concrete and Reinforced Concrete Columns, Series of 1907.

No. 21.—Tests of a Liquid Air Plant.

No. 22.—Tests of Cast Iron and Reinforced Concrete—Culvert Pipe.

No. 23.—Voids, Settlement and Weight of Crushed Stone.

Colorado College Publications—Semi-annual Bulletin of the Colorado College Observatory.

Indiana Bulletin of Charities and Corrections, June, 1908.

State Charities Aid Association of New York:

No. 97.—Thirty-fifth Annual Report, November 1, 1907.

No. 98.—Fifteenth Annual Report of, to the Commission in Lunacy.

Relations of the Doctor to the Alcohol Problem. T. D. Crothers, Hartford, Conn.

The Sphere of the Trained Nurse. W. A. Newman Dorland, Philadelphia.

A Statistical Review of the Records of the Graduates from Philadelphia Schools of Regular Medicine in Recent State Board Examinations. Seneca Egbert, Philadelphia.

Results of the Examinations of Students' Eyes. William C. Posey and R. Tait McKenzie, Philadelphia:

1. Pathogeny of Crime.
2. The Most Useful Specialty in Medicine. J. Madison Taylor, Philadelphia.

39th Annual Report of the Board of State Charities and Corrections of Rhode Island, 1907.

Nationalization and Socialization of Medical Education the Only Method for Suppression of Quackery and Sectarian Practice. Henry Leffman, Philadelphia.

INSTITUTIONS OF LEARNING.

California, Cooper Medical Coll., Announcement, 1908-1909; Leland Stanford Junior Univ., Register for 1907-1908; Santa Clara Coll., Prospectus, 1907-1908; Throop Institute, Bull., May, 1908. *Connecticut*, Wesleyan Univ., Bull., May, 1908; Yale Univ., President's Rpt., 1908. *District of Columbia*, Coll., of Political Sciences, Announcements, 1808-1809. *Indiana*, Earlham Coll., Bull. V: 3, Catalog number; Hanover Coll., Bull. I: 1, Catalog number. *Illinois*, Univ. of Chicago, President's Rpt., 1906-1907, Announcement, VIII: 4; School of Education, 5, Correspondence Study Dpt., Circular of Information, VIII: 4, Rush Med. Coll.; Lake Forest Coll., Catalog, 1907-1908; Northwestern Univ., Med. School, Quarterly Bull., June, 1908; Wheaton Coll., Bull. VII: 1, Catalog number. *Iowa*, Parsons Coll., Catalog, 1907-1908; State University of Iowa, Calendar, 1907-1908; Upper Iowa University, Catalog, 1907-1908. *Kentucky*, Transylvania Univ., Catalog, 1907-1908. *Louisiana*, Tulane Univ., Med. Dpt., Announcement, 1908-1909. *Maine*, Bates Coll., Bull. 5: 3, May, 1908. *Maryland*, St. John's Coll., Catalog, 1908. *Massachusetts*, Harvard Univ., Students' Expenses and College Aid. *Michigan*, Detroit Coll. of Med., Announcement, 1908-1909; Hillsdale Coll., Catalog, 1908. *Minnesota*, Univ. of Minnesota, Bull. XI: 1, 3, 6. *Missouri*, Washington Univ., Med. Dept., Bull. VI: 3, June, 1908. *Nebraska*, Creighton Univ., Catalog, 1907-1908. *New York*, Alfred Univ., Year Book, 1906-1907;

Columbia Univ., Med. Department, Announcement, 1908-1909; Eclectic Med. Coll., Announcement, 1908-1909; Hobart Coll., Bull. VI: 4, July, 1908; N. Y. Post-Grad. Med. School, Announcement, 1908-1909. *Ohio*, Buchtel Coll., Catalog, 1907-1908; Univ. of Cincinnati, Record, I–IV: 7, 8, April and May, 1908; Muskingum Coll., Catalog, 1908; St. John's Coll., Catalog, 1907-1908; Western Reserve Univ., Bull. XI: 3, May, 1908. *Oregon*, McMinnville Coll., Catalog, 1902-1908; Univ. of Oregon, Med. Department, Announcement, 1908-1909. *Pennsylvania*, Beaver Coll., Catalog, 1907-1908; Bryn Mawr Coll., Calendar, 1908—Part I., March, 1908, Part 3, May, 1908; Wilson Coll., Catalog, 1907-1908; Woman's Med. Coll., Catalog and 59th Annual Announcement. *South Carolina*, Coll. of Charleston, Catalog, 1907-1908. *Tennessee*, Univ. of Nashville, Med. Department, Bull. of Information, 1908-1909. *Vermont*, Univ. of Vermont, Bull. 5: 4, February, 1908. *Virginia*, Bridgewater Coll., Catalog, 1907-1908; Univ. of Virginia, Record 1: 9, Alumni Bull., 3, 1, 2, April, 1908. *Washington*, Univ. of Washington, Catalog, 1907-1908.

CANADA, *Toronto*, Queen's Univ., Med. Quarterly, April, July, 1908; Univ. of Toronto, Faculty of Med., Calendar, 1907-1908.

HOSPITALS AND INSTITUTIONS.

Connecticut, New Haven Hospital, 81st Annual Rpt. *New York*, Report of the State Board of Managers of Reformatories, 1907: Elmira, 32nd Report; Napanoch, 7th Report. *Pennsylvania*, 91st Annual Report, Friend's Asylum for the Insane, Frankford, Philadelphia, 1908; Report of the Penna. Home Teaching Society and Free Circulating Library for the Blind, 1908; Pennsylvania Hospital, Annual Report of the Department for the Insane, Year Ending April 23, 1908; Annual Report of the Penna. Soc. for the Prevention of Tuberculosis for the Year Ending April 1, 1908.

REPRINTS.

Acknowledgement is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. Wiliam Seaman Bainbridge, New York; L. Duncan Bulkley, New York; Charles W. Burr, Philadelphia; Gerhard H. Cocks, New York; William Campbell Posey, Philadelphia; A. Ravogli Cincinnati; Beverly Robinson, New York; J. Madison Taylor, Philadelphia; George W. Wood, Washington; S. Lewis Ziegler, Philadelphia.

HANDBOOK.

INTRODUCTION.

The American Academy of Medicine was organized in Philadelphia, September 6, 1876, as the result of extensive correspondence by Dr. Robert Lowry Sibbett, of Carlisle, Pa., who is justly entitled the honor of Founder of the Academy. The Academy was a society of protest against the loose methods in medical education prevailing at that time, and has developed by a process of evolution to its present "specializing in medical sociology." It was to be also a society of record, indicating who, among our American physician, had Academic training. Although this part of its purpose never materialized, the educational restrictions for membership has been beneficial, because it enabled it at once to set up a high standard for the education of the physician. As the educational problem is not yet settled, the standard of a college education is still maintained, although liberty is given the Council to accept other evidence than the possession of a degree.

Reputable college-bred physicians are eligible for Fellowship—blank applications for admission may be obtained from the Secretary, 52 N. 4th St., Easton, Pa.

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LIST OF MEETINGS WITH OFFICERS.

PRESIDENT	VICE-PRESIDENT	SECRETARY	TREASURER	ASSISTANT SECRETARY	ADDITIONAL MEMBERS OF COUNCIL
		I. 1876, Philadelphia, September 6.			
Traill Green		Peter D. Keyser			
		II. 1877, New York, September 11, 12.			
Traill Green	Lewis H. Steiner G. H. Larison E. H. M. Sell W. S. Stewart	R. L. Sibbet			
		III. 1878, Easton, Penna., September 17, 18.			
Frank H. Hamilton	Lewis H. Steiner Stephen Wickes Benjamin Lee H. G. Piffard	R. L. Sibbet	E. H. M. Sell	N. A. Baldwin	Peter D. Keyser
		IV. 1879, New York, September 16, 17.			
Lewis H. Steiner	Robert L. Sibbet E. H. M. Sell G. H. Larison R. Stansbury Sutton	Richard J. Dunglison	N. A. Baldwin	Charles McIntire	Peter D. Keyser George F. Shardy
		V. 1880, Providence, R. I., September 28, 29.			
Frederic D. Lente	Thomas Ryerson Peter D. Keyser N. A. Baldwin George M. Beard	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	E. J. Benningham Louis Elsberg
		VI. 1881, New York, September 20, 21.			
Edward T. Caswell	Henry O. Marcy W. T. Taylor Howard Pinkney Horace Lathrop	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	Peter D. Keyser

President	Vice-President	Secretary	Treasurer	Assistant Secretary	Additional Members of Council
		VII. 1882, Philadelphia, October 26, 27.			
Traill Green	Louis Elsberg J. D. Strawbridge C. C. Lee C. C. Bombaugh	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	William Govan G. H. Larison
		VIII. 1883, New York, October 9, 10.			
Henry O. Marcy	George M. Beard William Elmer C. R. Agnew J. M. Drysdale	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	Benjamin Lee L. Duncan Bulkley
		IX. 1884, Baltimore, October 28, 29.			
Benjamin Lee	A. L. Gihon Nathan Allen George F. Shrady E. J. Bermingham	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	C. C. Bombaugh William Elmer, Jr. J. Cheston Morris
		X. 1885, New York, October 28, 29.			
Albert L. Gihon	R. Stansbury Sutton J. A. Stewart William Elmer, Jr. J. Cheston Morris	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	L. D. Bulkley E. H. M. Sell
		XI. 1886, Pittsburg, October, 12 13.			
R. Stansbury Sutton	L. P. Bush S. J. Jones R. L. Sibbet F. H. Gerrish	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	G. D. Bruce J. Tabor Johnson
		XII. 1887, Washington, September 3.			
L. P. Bush	R. L. Sibbet S. J. Jones C. S. Conner V. P. Gibney	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	J. L. Cabell N. S. Lincoln

PRESIDENT	VICE-PRESIDENT	SECRETARY	TREASURER	ASSISTANT SECRETARY	ADDITIONAL MEMBERS OF COUNCIL
		XIII. 1888, New York, November 13, 14.			
Frederick H. Gerrish	W. B. Atkinson J. H. Baxter T. J. Turner J. B. Lindsley	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	L. Duncan Bulkley R. L. Sibbet
		XIV. 1889, Chicago, November 13, 14.			
Leartus Connor	Peter D. Keyser L. Duncan Bulkley Theophilus Parvin George J. Fisher	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	H. A. Johnson G. H. Hill J. E. Emerson
		XV. 1890, Philadelphia, December 2, 3.			
S. J. Jones	J. E. Emerson E. Hitchcock, Jr. J. Cheston Morris Alonzo Garcelon	Richard J. Dunglison	Richard J. Dunglison	Charles McIntire	H. A. Johnson G. H. Hill
		XVI. 1891, Washington, May 2, 4.			
Theophilus Parvin	H. M. Hurd Alonzo Garcelon R. L. Sibbet R. J. Dunglison	Charles McIntire	J. Cheston Morris	Edgar M. Green	J. E. Emerson J. Tabor Johnson
		XVII. 1892, Detroit, June 4, 6.			
P. S. Conner	R. L. Sibbet Geo. J. Fisher H. M. Lyman L. S. McMurtry	Charles McIntire	J. Cheston Morris	Edgar M. Green	Richard J. Dunglison C. P. Frost J. T. Whittaker
		XVIII. 1983, Milwaukee, June 3, 5.			
J. E. Emerson	T. F. Moses Charles Denison S. D. Presbrey H. D. Allyn	Charles McIntire	J. Cheston Morris	Edgar M. Green	C. W. Hitchcock R. L. Sibbet C. S. Sheldon

President	Vice-President	Secretary	Treasurer	Assistant Secretary	Additional Members of Council
		XIX. 1894, Jefferson, N. H., August 29, 30.			
George M. Gould	C. C. Bombaugh J. McFadden Gaston S. W. French C. W. Foster	Charles McIntire	Charles McIntire	Edgar M. Green	Bayard Holmes William T. Smith
		XX. 1895, Baltimore, May 4, 6.			
J. McFadden Gaston	R. P. Lincoln William T. Smith Helen C. Putnam V. C. Vaughan	Charles McIntire	Charles McIntire	Edgar M. Green	C. C. Bombaugh
		XXI. 1896, Atlanta, May 2, 4.			
Henry M. Hurd	Woods Hutchinson John B. Roberts Emma B. Culbertson W. F. Southard	Charles McIntire	Charles McIntire	Edgar M. Green	C. C. Bombaugh J. R. Shannon W. E. Doughty
		XXII. 1897, Philadelphia, May 29, 31.			
J. C. Wilson	J. T. Searcy Elmer Lee Everett Flood J. W. Grosvenor	Charles McIntire	Charles McIntire	Edgar M. Green	V. Y. Bowditch J. T. Whittaker
		XXIII. 1898, Denver, June 4, 6.			
L. Duncan Bulkley	John B. Roberts V. Y. Bowditch Charles Denison F. T. Rogers	Charles McIntire	Charles McIntire	Walter L. Pyle	S. A. Fisk J. N. Hall Edward Jackson W. L. Estes Edgar M. Green
		XXIV. 1899, Columbus, O., June 3, 5.			
Edward Jackson	W. L. Estes J. T. Searcy William Elmer, Jr R. H. Babcock	Charles McIntire	Charles McIntire	Walter L. Pyle	H. Bert Ellis W. J. Herdman R. A. Reeve

President	Vice-President	Secretary	Treasurer	Assistant Secretary	Additional Members of Council
		XXV. 1900, Atlantic City, June 2, 4.			
G. Hudson-Makuen	C. G. Plummer Albert Goldspohn E. F. Wilson A. L. Benedict	Charles McIntire	Charles McIntire	Walter L. Pyle	J. H. W. Chestnut H. W. Elmer H. P. Hansell
		XXVI. 1901, St. Paul, June 1, 3.			
S. D. Risley	C. M. Culver Rosa Engelmann G. G. Groff C. T. McClintock	Charles McIntire	Charles McIntire	A. R. Craig	E. C. Otis J. L. Rothrock C. S. Sheldon E. T. Wilson W. Blair Stewart
		XXVII. 1902, Saratoga Springs, June 7, 9.			
V. C. Vaughan	J. L. Taylor W. A. N. Dorland H. P. Ritchie H. Bert Ellis	Charles McIntire	Charles McIntire	A. R. Craig	T. D. Davis C. M. Culver J. T. Searcy
		XXVIII. 1903, Washington, May 11, 12.			
Charles McIntire	W. R. White George Dock Rosa Engelmann D. C. Hawley	A. R. Craig	Edgar M. Green	J. Staige Davis	C. M. Culver W. L. Estes G. N. Acker W. H. Doughty
		XXIX. 1904, Atlantic City, June 4, 6.			
John B. Roberts	T. D. Davis J. H. McBride J. T. Searcy S. Adolphus Knopf	Charles McIntire	Edgar M. Green	A. R. Craig	C. M. Culver W. S. Hall Leonard Freeman
		XXX. 1905, Chicago, November 9, 10.			
Winfield S. Hall	H. Bert Ellis R. A. Reeve L. S. McMurtry M. H. Richardson	Charles McIntire	Edgar M. Green	A. R. Craig	D. C. Hawley H. B. Favill C. L. Mix Casey A. Wood F. S. Johnson

PRESIDENT	VICE-PRESIDENT	SECRETARY	TREASURER	ASSISTANT SECRETARY	ADDITIONAL MEMBERS OF COUNCIL
XXXI. 1906, Boston, June 2, 4.					
Donly C. Hawley	Helen C. Putnam George W. McCasky Henry B. Favill J. T. Searcy	Charles McIntire	Charles McIntire	S. C. Stanton	M. H. Richardson J. F. Kidder W. R. White
XXXII. 1907, Atlantic City,					
Casey A. Wood	William L. Estes James A. Spalding Woods Hutchinson Guy Hinsdale	Charles McIntire	Charles McIntire	A. R. Craig	Henry W. Cattell William Elmer, Jr. Henry B. Favill Helen C. Putnam W. Blair Stewart
XXXIII. 1908, Chicago, May 30, June 1.					
Thomas D. Davis	J. H. McBride F. T. Rogers L. S. McMurtry A. Mansfield Holmes	Charles McIntire	Charles McIntire	A. R. Craig	E. B. Heckel J. F. Marchand C. S. Sheldon W. R. White
XXXIV. 1909, Atlantic City.					
Helen C. Putnam	Charles S. Sheldon L. Harrison Mettler Joseph K. Weaver Norman Bridge	Charles McIntire	Charles McIntire	A. R. Craig	Emma B. Culbertson Ella B. Everett Egbert Le Fevre George S. Matthews W. Blair Stewart

HONORARY MEMBERS.

(Limited to five to every one hundred Fellows.)

Date of Election.	
1879	*Agnew, D. Hayes (*1892), Philadelphia, Pa.
1896	Babcock, J. W., Columbia, S. C.
1882	*Campbell, Henry F. (*1891), Augusta, Ga.
1888	Championiere, Lucas J., Paris, France.
1886	*Davis, N. S. (*1904), Chicago, Ill.
1888	*Didama, Henry D. (*1905), Syracuse, N. Y.
1882	*Flint, Austin (*1886), New York, N. Y.
1897	Flint, Austin Jr., New York, N. Y.
1889	Grant, Sir James Alexander, Ottawa, Canada.
1879	*Gross, Samuel D. (*1884), Philadelphia, Pa.
1887	*Hewitt, W. M. Graily (*1893), London, England.
1884	*Holmes, Oliver Wendell (*1894), Boston, Mass.
1907	Horsley, Sir Victor, London, England.
1903	*Jacobi, Mary Putnam (*1906), New York, N. Y.
1889	Jordan, David Starr, Leland Stanford, Jr., University, Cal.
1887	*LeFort, Leon (*1893), Paris, France.
1888	Lord Lister, London, England.
1904	Manson, Sir Patrick, London, England.
1887	Martin, August, Berlin, Germany.
1890	*Millard, Perry H. (*1897), St. Paul, Minn.
1885	Mitchell, S. Wier, Philadelphia, Pa.
1887	Mooren, Albert, Dusseldorf, Germany.
1901	Nettleship, E., Nutcombe Hill, England.
1895	Osler, William, Oxford, England.
1895	Park, Roswell, Buffalo, N. Y.
1896	Peterson, Frederick C., New York, N. Y.
1887	*Phillips, Chas. D. F. (*1904), London, England.
1896	Potter, Wm. Warren, Buffalo, N. Y.
1897	Ransohoff, Joseph, Cincinnati, O.
1888	*Rauch, John H. (*1893), Chicago, Ill.
1887	*Semmola, M. (*1896), Naples, Italy.
1883	*Sims, J. Marion (*1883), New York, N. Y.
1885	*Smith, Henry H. (*1890), Philadelphia, Pa.
1884	Sternberg, Geo. M., U. S. A. (retired).
1895	Stockton, C. G., Buffalo, N. Y.
1906	Trendelenberg, F., Leipzig, Germany.
1887	Unna, P. G., Hamburg, Germany.
1901	*Virchow, Rudolph (*1902), Berlin, Germany.
1902	Welch, William H., Baltimore, Md.
1888	*Wells, Sir T. Spencer (*1897), London, England.
1907	Wright, Sir Almeroth E., London, England.

Honorary members, 23.

*Deceased.

ASSOCIATE MEMBERS.

(Limited to five to every one hundred Fellows.)

Date of election.	
1908	Devine, Edward T., New York.
1908	Henderson, Charles Richmond, Chicago.
1908	Groszman, Maximilian P. E., Plainfield, N. J.
1908	Lindsley, Samuel McCune, New York.
1908	Ward, Henry Baldwin, Lincoln, Neb.

Associate members, 5.

FELLOWS.

1882	ABBOT, GRIFFITH E., Leominster, Mass.
1885	Acker, George N., 913 16th, N. W., Washington, D. C.
1905	ADAMS, FRANK L., 14th and Broadway, Oakland, Cal.
1883	*Adams, Z. B. (*May 1, 1902), Framingham, Mass.
1905	Aderbold, Thomas M., Ziegler, Ill.
1880	*Agnew, Cornelius R. (*1888), New York, N. Y.
1892	*Alden, Charles Henry (*June 7, 1906), U. S. A.
1893	Alderson, M. E., Russelville, Ky.
1897	Alleman, H. M., Hanover, Pa.
1881	*Allen, Charles L. (*1890), Rutland, Vt.
1905	Allen, Frances M., 100 State, Chicago, Ill.
1880	*Allen, Nathan (*1889), Lowell, Mass.
1878	*Allen, William H. (*1880), Philadelphia, Pa.
1885	*Alleyne, J. S. B. (*1895), St. Louis, Mo.
1892	Allyn, G. W., 432 Penn Ave., Pittsburgh.
1890	Alt, Adolf, 3036 Locust, St. Louis, Mo.
1879	Andrew, Geo. L., 1201 Michigan Ave., LaPorte, Ind.
1884	*Andrews, Edmund (*Jan. 22, 1904), Chicago, Ill.
1882	Andrews, E. Wyllys, 2525 Prairie Ave., Chicago, Ill.
1887	Andrews, Frank T., 100 State, Chicago, Ill.
1892	Angle, Edward J., 1215 O., Lincoln, Neb.
1879	*Appleby, James F. R. (*Sep. 27, 1907), Washington, D. C.
1902	Arbuthnot, Thomas S., 5801 Fifth Ave., Pittsburgh, Pa.
1879	*Asch, Morris J. (*Oct. 5, 1902), New York, N. Y.
1900	Aschman, Gustavus A., 2 National Ex. Bank Building, Wheeling, W. Va.
1908	Ashhurst, Astley P. C., 2000 W. Delancey Pl., Philadelphia, Pa.
1877	*Atkinson, William B.*, 864 E. Chelten Ave. (Germantown), Philaphia, Pa.
1898	Atwater, James B., N. Elm and Union, Westfield, Mass.
1905	Avery, Ralph W., South Pasadena, Cal.
1906	Ayer, James C., 31 W. 36th, New York, N. Y.

Names in SMALL CAPITALS life members. * Deceased. Names in *Italics* retired fellows.

Date of election.	
1905	Bacon, Charles S., 756 Sedgewick, Chicago, Ill.
1906	Baer, William S., 714 Park Ave., Baltimore, Md.
1898	Bagot, William S., Stedman Block, Denver, Col.
1901	Baker, Albert R., 636 Rose Building, Cleveland, O.
1888	Baker, Clarence A., 312 Congress, Portland, Me.
1890	Baker, George Fales, 1818 Spruce, Philadelphia, Pa.
1891	*Baldwin, Henry R. (*Feb. 3, 1902), New Brunswick, N. J.
1877	*Baldwin, Neilson A. (*Aug. 29, 1906), Brooklyn, N. Y.
1906	Bang, Richard T., 139 W. 11, New York, N. Y.
1892	Bannister, Henry M., 828 Judson Ave., Evanston, Ill.
1894	Bardwell, E. O., Emporium, Pa.
1903	Barker, Byron F., Bath, Me.
1906	Barker, Christopher F., Newport, R. I.
1903	Barker, Olin G. A., 300 Lincoln Building, Johnstown, Pa.
1898	BARLOW, W. JARVIS, 616 Security Building, Los Angeles, Calif.
1904	Barnhill, James U., 242 E. State, Columbus, O.
1883	*Barnum, Eugene E. (*Oct. 4, 1904), Lancaster C. H., Va.
1897	Barreto, Octaveas de Metto, Sao Paulo, Brazil.
1896	Bartholow, Paul, 120 E. 31, New York, N. Y.
1882	Barton, James M., 1337 Spruce, Philadelphia, Pa.
1889	*Bates, Joseph H. (*1894), Neponset, Ill.
1905	Baumann, Frederic A., 103 State, Chicago, Ill.
1905	Baxter, George E., 1916 Evanston Ave., Chicago, Ill.
1883	*Baxter, J. H. (*1890), U. S. A.
1904	Beach, George W., 201 Front, Binghampton, N. Y.
1897	Beach, William M., 901 Bessemer Building, Pittsburgh, Pa.
1878	*Beard, George M. (*1883), New York, N. Y.
1906	Beates, Henry, Jr., 260 S. 16th, Philadelphia, Pa.
1907	Beck, L. H., Manitou, Colo.
1882	Beck, Richard H., Hecktown, Penna.
1889	Beebe, Warren L., St. Cloud, Minn.
1891	Behrens, Bernt M., 5 E. 25th, Minneapolis, Minn.
1905	Belknap, Frederick W., 385 N. State, Chicago, Ill.
1889	Bell, Finis E., Mattoon, Ill.
1891	Bemus, Morris N., 111 E. 5th, Jamestown, N. Y.
1897	Benedict, A. L., 156 W. Chippewa, Buffalo, N. Y.
1877	*Benham, S. W. (*1890), Pittsburgh, Pa.
1879	*Bennett, William C. (*1886), Danbury, Conn.
1878	Bermingham, Edward J., 542 Fifth Ave., New York, N. Y.
1906	Bettmann, Henry W., Leverone Building, Cincinnati, O.
1890	*Bidwell, Walter D. (*1896), Colorado Springs, Colo.
1897	Bieser, Augustus E., 256 W. 54th St., New York, N. Y.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1889	*Bigelow, George F. (*1893), Boston, Mass.
1892	Biggs, Herman M., 13 W. 57th St., New York, N. Y.
1897	*Birney, David B. (*Nov. 2, 1906), Philadelphia, Pa.
1905	Bishop, Louis F., 54 W. 55th., New York, N. Y.
1884	Bishop, Rufus W., 70 State, Chicago, Ill.
1905	Black, Carl E., 349 E. State, Jacksonville, Ill.
1908	Black, Stanley P., Pasadena, Calif.
1892	*Blake, Charles E. (*1894), San Francisco, Calif.
1902	Blumer, George, 204 York, New Haven, Conn.
1889	Boise, Eugene, 605 Ashton Building, Grand Rapids, Mich.
1905	Bold, Francis J., 915 Imperial Ave, Imperial, Calif.
1879	*Bombaugh, Charles C. (*May 24, 1906), Baltimore, Md.
1898	Bonney, Sherman G., Stedman Block, Denver, Col.
1890	Boone, Sherman W., Presque Isle, Me.
1889	Boothby, James M., Dubuque, Ia.
1886	*Borland, Matthew H. (*1888), Pittsburgh, Pa.
1894	Bourne, George W., Kennebunk, Me.
1879	*Bowditch, Henry I. (*June 14, 1892), Boston, Mass.
1905	Boyle, Blanche C., 147 Spring, Portland, Me.
1892	*Bradford, E. F. (*Feb. 8, 1904), Mechanic Falls, Me.
1889	Bradford, T. B., 828 Washington, Wilmington, Del.
1894	Bradford, William H., 365 Congress, Portland.
1889	Braisted, William C., U. S. N.
1905	Brandenburg, Frederick D., 645 So. 4th, Mankato, Minn.
1891	Brasseur, John B., Norway, Mich.
1894	*Braymer, O. W. (*1898), Camden, N. J.
1884	Brekes, David, 319 E. 51st, New York, N. Y.
1903	Bridge, Norman, 217 S. Broadway, Los Angeles, Calif.
1886	*Briggs, Charles E. (*1894), St. Louis, Mo.
1897	Brinsmade, William B., 117 Montague, Brooklyn, N. Y.
1890	*Bristol, Bennet J. (*Nov. 28, 1903), Webster Groves, Mo.
1894	Brock, Henry H., 662 Congress, Portland, Me.
1889	Brockman, David C., 119 E. Main, Ottumwa, Ia.
1892	Brodie, Benjamin P., 64 Lafayette Ave., Detroit, Mich.
1883	Bronson, Edward B., 10 W. 49th, New York, N. Y.
1907	Brooks, Earl B., Pawnee City, Neb.
1901	Brower, Daniel R., 597 Jackson Boul., Chicago, Ill.
1896	BROWN, ADELAIDE, 3146 Clay, San Francisco, Calif.
1883	*Brown, Alfred, (*Sep. 7, 1899) Hellertown, Pa.
1896	*Brown, Charlotte B. (*April 19, 1904), San Francisco, Calif.
1894	Brown, Frank I., South Portland, Me.
1899	Brown, John E., 235 E. Town, Columbus, O.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1890	*Browning, William W. (*Oct. 3, 1900), Brooklyn, N. Y.
1877	*Bruce, George D. (*1891), Pittsburgh, Pa.
1907	Bruce, Harold M., 519 Washington, Brookline, Mass.
1901	Bruner, William E., 514 N. E. Building, Cleveland, O.
1901	Bruyere, John, 123 Perry, Trenton, N. J.
1906	Bryant, Alice G., 416 Marlborough, Boston, Mass.
1908	Bryant, William S., 57 W. 53, New York, N. Y.
1906	Buck, Augustus W., Fall River, Mass.
1881	*Buel, Henry W. (*Jan. 30, 1893), Litchfield, Conn.
1898	Buel, John L., Litchfield, Conn.
1889	*Buist, John R. (*Oct. 24, 1903), Nashville, Tenn.
1877	*Bulkely, Jonathan E. (*1886), Wilkes-Barre, Pa.
1879	Bulkley, L. Duncan, 531 Madison Ave., New York, N. Y.
1906	Bullard, John T., New Bedford, Mass.
1886	*Bunting, Ross R. (*Oct. 1, 1900), Philadelphia, Pa.
1888	*Burbank, Augustus H. (*1895), Yarmouthville, Me.
1881	*Burchard, Thomas H. (*1896), New York, N. Y.
1907	Burdick, A. S., 2843 N. Hermitage Ave., Chicago, Ill.
1907	Burge, Albertus J., Iowa City, Ia.
1897	Burgin, Herman, 63 W. Chelton Ave., Germantown, Philadelphia.
1905	Burkland, Philip H., Vermilion, S. Dak.
1905	Burr, Albert Henry, 100 State, Chicago, Ill.
1905	Burrage, Thomas J., Portland, Me.
1882	*Bush, Lewis P. (*Mar. 6, 1892), Wilmington, Del.
1907	Butler, George F., Wilmette, Ill.
1892	Butler, Glentworth R., 229 Gates Ave., Brooklyn, N. Y.
1905	BYFORD, HENRY T., 100 State, Chicago, Ill.
1879	*Cabell, James L. (*1889), University of Va.
1882	*Cadwalader, Charles E. (*June 12, 1907), Philadelphia, Pa.
1901	*Cadwalader, Edith W. (afterward Mrs. Thomas R. Crowder, *Aug. 18, 1906), Philadelphia, Pa.
1905	Campbell, Frank J., 606 Front, Fargo, N. Dak.
1901	Campbell, William F., 894 Clinton Ave., Brooklyn, N. Y.
1895	Capron, Franklin P., 118 Angell, Providence, R. I.
1898	Carhart, William M. d'A., 252 Madison Ave., New York, N. Y.
1905	Carlton, Edward P., 283 W. Adams, Chicago, Ill.
1899	*Carpenter, Eugene C.(*Oct. 19, 1902), Columbus, O.
1903	Carpenter, James S., Pottsville, Pa.
1879	*Carpenter, John T. (*Jan. 22, 1899), Pottsville, Pa.
1894	Carpenter, W. T., Iron Mountain, Mich.
1881	*Carr, George W. (*June 18, 1907), Providence, R. I.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1905	Carter, Charles W., Batavia, Ill.
1889	Carter, James M. G., 911 1st Nat. Bank Bldg., Chicago, Ill
1888	*Cary, George (*Nov. 29, 1899), Houlton, Me.
1892	Castle, Curtis H., Merced, Calif.
1882	Castle, Franklin D., 418 So. Broad, Philadelphia, Pa.
1879	*Caswell, Edward T. (*1887), Providence, R. I.
1892	Cato, Frank L., De Soto, Ga.
1890	Cattell, Henry W., 3709 Spruce, Philadelphia, Pa.
1905	Cavano, William M., 696 McAllister, San Francisco, Calif.
1900	*Chaddock, Charles G. (*April 1, 1904), St. Louis, Mo.
1906	Chandler, Myron, L., Barre, Vt.
1895	Chapin, Charles V., City Hall, Providence, R. I.
1896	*Chapman, Frank B. (*1897), Middletown, Mass.
1892	Chapman, Norman H., Monte Vista, Colo.
1907	Charles, Joseph W., 505 Humbolt Building, St. Louis, Mo.
1907	Charlton, Max R., Clear Lake, Ia.
1898	Chase, John, 418 Jackson Building, Denver, Colo.
1890	*Cheeseman, Nathaniel S. (*Sept. 13, 1901), Scotia, N. Y.
1895	Chesebro, Edmund D., Elmwood Ave. and Hawthorne, Providence, R. I.
1884	*Chestnut, John H. W. (*Aug. 5, 1900), Philadelphia, Pa.
1878	Chrystie, Thomas M. L., 1748 Broadway, New York, N. Y.
1903	Churchill, Donald, 369 Broad, Providence, R. I.
1878	Cisna, William R., Gault House, Chicago, Ill.
1879	*Clark, Charles F., Brooklyn, N. Y.
1906	*Clark, Gaylord P. (*Sept. 1, 1907), Syracuse, N. Y.
1887	Clarke, Augustus P., 825 Massachusetts Ave., Cambridge, Mass.
1906	CLARKE, GENEVIEVE, 825 Massachusetts Ave., Cambridge, Mass.
1906	CLARKE, INEZ L., 825 Massachusetts Ave., Cambridge, Mass.
1879	Cleeman, Richard A., 2135 Spruce, Philadelphia, Pa.
1898	Clough, Augustus A., 1349 California, Denver, Colo.
1891	Cluness, William R., 406 Sutter, San Francisco, Calif.
1883	Clute, William T., 520 Liberty, Schenectady, N. Y.
1905	Coakley, Cornelius G., 53 W. 56th, New York, N. Y.
1890	Coan, Titus M., 70 Fifth Ave., New York, N. Y.
1905	Cobb, George H., 117 Irvington Ave., South Orange, N. J.
1884	*Coblentz, Joseph (*Aug. 6, 1899), Vaughan, Wash.
1894	Cochrane, Jasper D., Saco, Me.
1888	*Cock, David C. (*1890), New York, N. Y.
1901	Coggeshall, Frederic, 541 Commonwealth Ave., Boston, Mass.
1897	Cogswell, Charles H., 409 Marlboro, Boston, Mass.
1905	Cohenour, Vincent J., 801 Collins, Joliet, Ill.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1908	Cole, George E., 800 Auditorium, Los Angeles, Calif.
1895	Collins, George L., 223 Benefit, Providence, R. I.
1877	*Collins, James (*1895), Philadelphia, Pa.
1896	Collins, Rufus G., 5059 State, Chicago, Ill.
1904	Conaway, W. P., 1723 Pacific Ave., Atlantic City, N. J.
1905	Cone, Sydney M., 2326 Eutaw Place, Baltimore, Md.
1906	Connell, James Cameron, Kingston, Ontario.
1886	Connell, J. G., 3519 Fifth Ave., Pittsburgh, Pa.
1880	Conner, P. S., 159 W. 9th, Cincinnati, O.
1902	Connor, Guy L., 91 Lafayette Ave., Detroit, Mich.
1878	Connor, Leartus, 91 Lafayette Ave., Detroit, Mich.
1904	Connor, Ray, 91 Lafayette Ave., Detroit, Mich.
1885	Cook, Charles E., Mendota, Ill.
1877	*Cook, Joseph S. (*July 4, 1903), Washington, N. J.
1899	Cooperrider, Charles A., 370 S. Fourth, Columbus, O.
1898	Corson, Elton S., Toungo, Burma.
1898	*Corss, Frederic (*Apr. 1, 1908), Kingston, Pa.
1907	Corwin, Richard W., Pueblo, Colo.
1888	*Cotton, David S. (*Aug. 30, 1902), Portsmouth, O.
1897	*Coverly, John H. (*Feb., 1908), Brooklyn, N. Y.
1882	Cowan, George, 336 Main, Danville, Ky.
1884	Cowles, Edward, 419 Boylston, Boston.
1897	CRAIG, ALEXANDER R., 114 S. 18, Philadelphia, Pa.
1901	CRAIG, JOHN J., Columbia, Pa.
1902	Craig, Joseph D., 12 Ten Broeck, Albany, N. Y.
1883	*Crane, Charles H. (*Oct. 10, 1883), U. S. A.
1897	Criado, Louis F., 430 W. 116, New York, N. Y.
1899	Crile, George W., 1021 Prospect Ave., Cleveland, O.
1888	*Crocker, Frank H. (*June 12, 1903), Machias, Me.
1908	Croftan, Alfred C., 100 State, Chicago, Ill.
1903	Crooker, George H., 159½ Benefit, Providence, R. I.
1892	Crossland, Jefferson C., Zanesville, O.
1905	Culbertson, Carey, 687 W. Monroe, Chicago, Ill.
1888	CULBERTSON, EMMA B., 33 Newberry, Boston, Mass.
1897	Culbreth, David M. R., 203 E. Preston, Baltimore, Md.
1899	CULVER, CHARLES M., 36 Eagle, Albany, N. Y.
1888	Cummings, Charles E., Henssy Building, Seattle, Wash.
1888	*Cummings, George H. (*Aug. 23, 1903), Portland, Me.
1901	Curtin, Roland G., 22 S. 18th, Philadelphia, Pa.
1886	Curtis, Lester, 35 Douglas Place, Chicago, Ill.
1877	*Curwen, John (*July 2, 1901), Harrisburg, Pa.
1888	Cutter, Charles K., 178 School, Winter Hill, Mass.

* Deceased. Names in SMALL CAPITALS life members.

1905 Cuttle, Frederick, Red Lodge, Mont.
1903 Cutts, William B., 183 Broad, Providence, R. I.

1900 Daland, Judson, 317 S. 18th, Philadelphia, Pa.
1881 Dana, Charles L., 53 W. 53d, New York, N. Y
1889 *Dana, William L. (*1897), Portland, Me.
1899 Dandridge, N. P., 422 Broadway, Cincinnati, O.
1891 Darey, J. Herbert, Sioux City, Ia.
1898 Darnell, William E., 121 S. Illinois, Atlantic City, N. J.
1888 Davies, Oscar C. S., 243 Water, Augusta, Me.
1889 *Davis, John E. (*Jan. 22, 1900), Madison, Wis.
1908 Davis, George G., 100 State, Chicago, Ill.
1897 Davis, Gwilym G., 255 S. 16th, Philadelphia, Pa.
1895 Davis, John Staige, Univ. of Virginia, Charlotteville, Va.
1885 Davis, Nathan S., 72 Madison, Chicago, Ill.
1886 Davis, Thomas D., 261 Shady Ave., Pittsburgh, Pa.
1904 Davis, William M., St. Petersburg, Fla.
1895 Day Frank L., 240 Benefit, Providence, R. I.
1880 Deal, Lemuel J., 2106 N. Hancock, Philadelphia.
1889 *Dearborn, Alvah, B. (*Aug. 19, 1906), Winter Hill, Mass.
1905 Dearborn, George V. N., Tufts Med. School, Boston, Mass.
1905 DeLaney, John P., 12 Park Place, Geneva, N. Y.
1889 Denison, Charles, 823 Fourteenth, Denver, Colo.
1897 Dennis, Frederic S., 542 Madison Ave., New York, N. Y.
1905 DeSilva, Joseph, Rock Island, Ill.
1892 *DeSpelder, Elias (*1906), Zeeland, Mich.
1882 Devendorf, C. A., 508 Woodward Ave., Detroit, Mich.
1889 Dewees, William B., 542 S. Santa Fe Ave., Salina, Kas.
1900 Dewey, Richard, Wauwatosa, Wis.
1903 DeWolf, Halsey, 212 Benefit, Providence, R. I.
1879 *Dickson, J. N. (*1893), Pittsburg, Pa.
1897 Diefenderfer, Harold, 6303 Monroe Ave., Chicago, Ill.
1897 Diehl, Alfred E., 362 Pearl, Buffalo, N. Y.
1888 Diven, Samuel L., 95 N. Hanover, Carlisle, Pa.
1889 Doane, L. Leo, Butler, Pa.
1896 Dodds, J. Chambers, Champaigne, Ill.
1878 *Dodge, Daniel A. (*1882), Brooklyn, N. Y.
1906 Donley, John E., 222 Broadway, Providence, R. I.
1896 Dorland, W. A. Newman, 128 S. 17th, Philadelphia, Pa.
1895 Doughty, William H., Jr., 822 Greene, Augusta, Ga.
1892 Dow, Frank F., 137 Park Ave., Rochester, N. Y.
1897 *Drown, Thomas M. (*Nov. 16, 1904), South Bethlehem, Pa.
1879 *Drysdale, Thomas M. (*May 26, 1904), Philadelphia, Pa.
1883 *DuBois, Francis L. (*1895), U. S. N.

* Deceased.

Date of election.

1886 *Duff, John M. (*May 14, 1904), Pittsburgh, Pa.
1905 Dunavan, Louis W., 4132 Indiana Ave., Chicago, Ill.
1905 Duncan, William P., E. State, Jacksonville, Ill.
1891 Dundor, Adam B., 118 S. 4th, Reading, Pa.
1878 *Dunglison, Richard J. (*Mar. 4, 1901), Philadelphia, Pa.
1898 DUNHAM, EDWARD K., 338 E. 26, New York, N. Y.
1899 Dunham, John D., 228 E. Town, Columbus, O.
1890 *Dunlap, W. Herpert (*1895), Syracuse, N. Y.
1883 *Dunster, E. S. (*1888), Ann Arbor, Mich.
1889 Dunton, William Rush, 5059 Germantown Ave., Philadelphia, Pa.
1894 Durand, Henry S., 87 S. Fitzhugh, Rochester, N. Y.
1906 Dutton, Julius M., 5 Parks Block, Westfield, Mass.
1882 *Dwight, Henry E., (*Apr. 1, 1908). Philadelphia, Pa.
1878 *Dyer, Ezra (*1887), Newport, R. I.

1905 Eberhardt, Noble M., 72 Madison, Chicago, Ill.
1892 Edwards Arthur R., 3801 Grand Boulevard, Chicago, Ill.
1905 Edwards, E. Gard., La Junta, Colo.
1904 Egbert, Joseph C., Wayne, Pa.
1897 Einhorn, Max, 20 E. 63d, New York, N. Y.
1907 Eisenberg, P. Y., P. O. Box 142, Norristown, Pa.
1905 Eisendrath, Daniel N., 103 State, Chicago, Ill.
1898 Elliot, George T., 36 E. 35, New York, N. Y.
1897 Ellis, H. Bert, 243 Bradbury Block, Los Angeles, Cal.
1885 *Elmer, Henry W. (*Feb. 13, 1907), Bridgeton, N. J.
1880 *Elmer, William (*1889), Bridgeton, N. J.
1880 Elmer, William, Jr., 44 W. State Trenton, N. J.
1879 *Elsberg, Louis (*1885), New York, N. Y.
1880 *Ely, James W. C. (*May 6, 1906), Providence, R. I.
1897 Ely, Thomas C., 2041 Green, Philadelphia Pa.
1883 Emerson, Justin E., 128 Henry, Detroit, Mich.
1890 Emerson, Nathaniel B., Honolulu, H. I.
1879 *Engel, Hugo (*1897), Philadelphia, Pa.
1892 *Engelman, George J. (*Nov. 17, 1903), Boston, Mass.
1892 Ervin, R. W., 620 N. Monroe, Bay City, Mich.
1897 Eshner, Augustus A., 1019 Spruce, Philadelphia, Pa.
1898 Esterly, Daniel E., 723 Kansas Ave., Topeka, Kas.
1892 ESTES, WILLIAM L., South Bethlehem, Pa.
1877 Evans, Horace Y., 1631 Green, Philadelphia, Pa.
1888 *Eveleth, John M. (*1894), Hallowell, Me.
1900 Everitt, Ella B., 1807 Spruce, Philadelphia, Pa.
1889 *Ewers, Henry F. (Mar. 30, 1899), Burlington, Ia.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1889	Ewing, Arthur E., 5956 W. Cabanne Place, St. Louis, Mo.
1892	Ewing, W. Brown, Atlas Block, Salt Lake City, Utah.
1888	Fairbairn, Henry A., 249 McDonough, Brooklyn, N. Y.
1881	*Farnham, Horace P. (*1886), New York, N. Y.
1883	Farnsworth, Philo J., Clinton, Ia.
1893	Favill, Henry B., 100 State, Chicago, Ill.
1879	*Fegley, Orlando (*Mar. 10, 1900), Allentown, Pa.
1892	Felch, Theodore F., Ishpeming, Mich.
1891	*Felter, Mahlon (*July 19, 1905), Troy, N. Y.
1891	*Fenger, Christian (*Mar. 7, 1902), Chicago, Ill.
1904	Fetterolf, George, 330 S. 16th, Philadelphia, Pa.
1904	Figueria, Mathias, 14 Stuyvesant Ave., Brooklyn, N. Y.
1904	Filbert, C. E., Atlantic City, N. J.
1905	Files, Ernest W., Woodford, Me.
1905	Findley, Palmer, Bee Building, Omaha, Neb.
1878	Fisher, Frank, 1911 Arch, Philadelphia, Pa.
1878	*Fisher, George J. (*Feb. 3, 1893), Ossining, N. Y.
1889	Fisk, Samuel A., Brimfield, Mass.
1889	Fiske, George F., 425 La Salle Ave., Chicago, Ill.
1890	*Fitz, Edward (*1902), Kalamazoo, Mich.
1892	Fleming, George W., Shelbyville, Ind.
1889	*Flint, Kendall (*Sept. 28, 1892), Haverhill, Mass.
1890	*Flintermann, Johann*, 368 Woodward Ave., Detoit, Mich.
1888	Flood, Everett, Palmer, Mass.
1897	Fly, Edward M., National City, Calif.
1890	Flynn, William, Marion, Ind.
1893	*Focht, William H. (*May 12, 1906), Tiffin, O.
1906	Folsom, Ernest B., 77 Granite, Portland, Me.
1896	*Ford, De Saussure (*Feb. 5, 1906), Augusta, Ga.
1878	*Ford, William H. (*1897), Philadelphia, Pa.
1892	Fordyce, John A., 80 W. 40, New York, N. Y.
1897	Forwood, William H., U. S. A.
1890	Foskett, George M., 235 Pleasant, Worcester, Mass.
1888	*Foster, Addison H. (*1906), Oak Park, Ill.
1888	Foster, Charles W., Woodford, Me.
1897	Foster, William S., 252 Shady Ave., Pittsburgh, Pa.
1877	*Foulke, Lewis W. (*June 1, 1887), Chillocothe, O.
1882	*Foulkes, James F. (*——), Oakland, Calif.
1878	Fox, George H., 616 Madison Ave., New York, N. Y.
1905	Frank, Mortimer, 31 Washington, Chicago, Ill.
1877	*Franklin, Gustavus (*Feb. 6, 1901), Chillicothe, O.
1908	Frauenfelter, Clare, Canton, O.

*** Deceased. Names in *Italics* retired fellows.**

Date of election.	
1884	Free, Spencer M., DuBois, Pa.
1905	Freeman, George F., U. S. N.
1905	Freeman, Harry E., Millington, Ill.
1897	Freeman, Leonard, 1374 Elizabeth, Denver, Colo.
1882	*French, George F. (*July 13, 1897), Minneapolis, Minn.
1893	French, Samuel W., 1216 Grand Ave., Milwaukee, Wis.
1889	*French, William F. (*1898), Noroton, Conn.
1898	Fretz, John E., Easton, Pa.
1901	Friedenwald, Julius, 7 W. Franklin, Baltimore, Md.
1901	Friedlander, Alfred, 4 W. 7, Cincinnati, O.
1882	*Frost, Carlton P. (*1896), Hanover, N. H.
1878	*Fruitnight, John H. (*Dec. 18, 1900), New York, N. Y.
1908	Fry, Royce D., 836 Rose Bldg., Cleveland, O.
1888	Fuller, Charles, Lincoln, Me.
1897	Fuller, George E., Monson, Mass.
1908	Fulton, Dudley, 314 Grove Bldg., Los Angeles, Calif.
1888	*Furbeck, Peter R. (*Jan. 17, 1902), Gloversville, N. Y.
1882	*Garcelon, Alonzo (*Dec. 6, 1906), Lewiston, Me.
1890	Gardener, Edwin J., 34 Washington, Chicago, Ill.
1905	Garrett, John D., 1733 N. Senate Ave., Indianapolis, Ind.
1894	*Gaston, J. McFadden (*Nov. 15, 1903), Atlanta, Ga.
1908	Gay, George W., 665 Boylston, Boston, Mass.
1898	*Gaylord, John F. (*Apr. 4, 1903), Plymouth, Mass.
1905	Gehring, Edwin W., 690 Congress, Portland, Me.
1882	*Gerhard, Abraham S. (*Dec. 16, 1891), Philadelphia, Pa.
1878	*Gerhard, Jerome Z. (*Nov. 20, 1906), Harrisburg, Pa.
1883	Gerrish, Frederick H., 675 Congress, Portland, Me.
1892	Gerster, Arpad P., 34 E. 75th, New York, N. Y.
1888	*Gibson, Arthur C. (*Feb. 21, 1904), Bangor, Me.
1887	*Gibson, William J. (*Feb., 1893), Philadelphia, Pa.
1905	Gifford, Harold, 405 Karbach Block, Omaha, Neb.
1883	*Gihon, Albert H. (*Nov. 17, 1901), U. S. N.
1897	Gilchrist, Thomas C., Professional Building, Baltimore, Md.
1906	Gile, John M., Hanover, N. H.
1888	*Given, Obadiah G. (*1889), Carlisle, Pa.
1890	Gleason, E. Baldwin, 2033 Chestnut, Philadelphia, Pa.
1897	Goldspohn, Albert, 519 Cleveland Ave., Chicago, Ill.
1888	Goodale, George L., Cambridge, Mass.
1890	Goodale, Walter T., Saco, Me.
1905	Goodwin, Henry F., 6021 Woodlawn Ave., Chicago, Ill.
1898	Goodwin, Ralph S., Thomaston, Conn.

* Deceased.

Date of election.	
1890	Gorgas, Ferdinand I. S., 845 N. Eutaw, Baltimore, Md.
1892	Gould, George M., Cayuga Heights, Ithaca, N. Y.
1878	*Govan, William (*1894), Stony Point, N. Y.
1889	Graham, David W., 672 Monroe, Chicago, Ill.
1884	*Graham, E. Ridgely (*1895), Chester, Pa.
1892	Grant, H. Horace, 4th and Walnut, Louisville, Ky.
1903	Gray, Alfred W., 694 Summit Ave., Milwaukee, Wis.
1905	Gray, Frank F., Hudson, Wis.
1902	Grayson, Thomas W., 1101 Westinghouse Building, Pittsburgh, Pa.
1902	Greeley, Jane L., 111 E. 5th, Jamestown, N. Y.
1889	Green Edgar M., 222 Spring Garden, Easton, Pa.
1905	Green, Frederick R., 103 Dearborn Ave., Chicago, Ill.
1906	Green, Herlwyn R., 274 Benefit, Providence, R. I.
1884	*Green, James S. (*1892), Elizabeth, N. J.
1883	Green, John, 2670 Washington Ave., St. Louis, Mo.
1891	*Green, John T. (*1892), Tucson, Arizona.
1876	*Green, Traill (*April 29, 1897), Easton, Pa.
1893	Gregory, Louis L., 514 Evanston Ave., Chicago, Ill.
1888	Grim, H. A., Allentown, Pa.
1905	Griswold, Walter S., 512 Burke Building, Seattle, Wash.
1892	Groff, George G., Lewisburg, Pa.
1892	Grosvenor, Joseph W., 118 Plymouth Ave., Buffalo, N. Y.
1905	Gulick, Clyde H., Urbana, Ill.
1890	*Gumbes, Charles W. (*Jan. 31, 1903), Oaks, Pa.
1889	Guthrie, J. Renwick, 485 Locust, Dubuque, Ia.
1884	Hadden, Alexander, 155 E. 51st, New York, N. Y.
1892	*Hahn, Henry H. (*1905), Youngstown, O.
1891	Halberstadt, Andrew H., Pottsville, Pa.
1888	Hale, George W., 235½ N. Summer, Nashville, Tenn.
1905	Hall, Alfred M., 38 Bellevue Pl., Chicago, Ill.
1905	Hall, George W., 34 Washington, Chicago, Ill.
1894	Hall, Josiah N., 308 Jackson Building, Denver, Col.
1896	Hall, Winfield Scott, 2431 Dearborn, Chicago, Ill.
1882	Halsey, Calvin C., Montrose, Pa.
1880	Ham, Albert E., 199 Benefit, Providence, R. I.
1901	Hamburger, Louis P., 1210 Eutah Pl., Baltimore, Md.
1899	Hamilton, Charles S., 1 N. 4th, Columbus, O.
1877	*Hamilton, Frank H. (*1886), New York, N. Y.
1904	Hamilton, James M., 18 E. Espanola, Colorado Springs, Col.
1899	Hamilton, William D., 1 N. 4th, Columbus, O.
1904	Hammond, L. J., 1222 Spruce, Philadelphia, Pa.

* Deceased.

Date of election.	
1894	Hammond, William P., 47 Monument Sq., Charlestown, Mass.
1892	Hanna, W. M., Henderson, Ky.
1885	Hansell, Howard F., 1528 Walnut, Philadelphia, Pa.
1897	Hardie, Thomas M., 34 Washington, Chicago, Ill.
1905	Hardon, Robert W., 103 State, Chicago, Ill.
1891	Hare, George A., Fresno, Calif.
1882	Harlan George C., 1700 Walnut, Philadelphia, Pa.
1899	Harlow, George A., New Insurance Building, Milwaukee, Wis.
1880	*Harlow, Lewis D. (*1895), Philadelphia, Pa.
1882	*Harper, Thos. S., (*Apr. 27, 1908), Philadelphia, Pa.
1897	Harriman, Wilbert E., Hampton, Ia.
1879	*Harris, Elisha (*1884), New York, N. Y.
1891	*Harris, William H. (*April 1893), Louisville, Ky.
1889	Harrison, Wallace K., 52 Walton Pl., Chicago, Ill.
1889	Harsha, William M., 4201 Grand Boul., Chicago, Ill.
1880	*Hartley, Theophilus S., (*——), Ridgeway, Pa.
1902	Harvey, Edwin B. Westborough, Mass.
1878	Harvey, Olin F., Wilkes-Barre, Pa.
1880	*Haslett, Audley (*July 9, 1901), New York, N. Y.
1884	Hatfield, Marcus P., 42 Madison, Chicago, Ill.
1878	*Hatfield, Nathan (*1897), Philadelphia, Pa.
1905	Haugan, Otto M., Fergus Falls, Minn.
1890	Haven, Alfred C., Lake Forest, Ill.
1898	Haven, Foster F., 143 W. 61st, New York.
1898	Hawkes, Forbes, 42 E. 26th, New York, N. Y.
1890	*Hawkes, William H. (*Mar. 13, 1904), Washington, D. C.
1898	Hawkins, Thomas H., 1740 Welton, Denver, Colo.
1900	Hawley, Donly C., 204 Pearl, Burlington, Vt.
1897	Hay, Eugene C., Hot Springs, Ark.
1898	Hayes, William V., 34 W. 50th, New York, N. Y.
1904	Hazen, Charles M., Bon Air, Va.
1893	Head, Louis R., 2 S. Pinkney, Madison, Wis.
1888	Heath, Frederick C., 427 Newton Claypool Building, Indianapolis, Ind.
1902	Heckel, Edward B., 524 Penn Ave., Pittsburgh, Pa.
1889	Heffron, John L., 528 S. Salina, Syracuse.
1888	*Helm, William H. (*1898), Ossining, N. Y.
1889	Hemenway, Henry B., Evanston, Ill.
1888	Herbst, Henry H., 28 N. 5th, Allentown, Pa.
1890	*Herdman, William J. (*Dec. 14, 1906), Ann Arbor, Mich.
1889	Herrick, Fred. S., Brooklin, Me.
1889	*Herrick, Henry J. (*Jan. 28, 1901), Cleveland, O.

* Deceased.

Date of election.	
1880	Hersey, George D., 148 Broad, Providence, R. I.
1898	Hershey, Edgar P., 412 California Building, Denver, Colo.
1878	Hess, Robert J., 610 Fairmount Ave., Philadelphia, Pa.
1898	Hessler, Robert, Loganport, Ind.
1905	Heywood, Charles W., Riverside, Ill.
1905	HIGGINS, SAMUEL G., 105 Grand Ave., Milwaukee, Wis.
1888	Hill, Gershom H., Equitable Building, Des Moines, Ia.
1897	*Hill, Horace G. (*Feb. 14, 1901), Philadelphia, Pa.
1905	Hinman, Clayton J., Trinidad, Colo.
1896	Hinsdale, Guy, Hot Springs, Va.
1888	*Hitchcock, Alfred (*June 14, 1900), Farmington, Me.
1888	Hitchcock, Charles W., 270 Woodward Ave., Detroit, Mich.
1888	Hitchcock, Edward, Jr., 2 Grove Pl., Ithaca, N. Y.
1888	*Hitchcock, Francis E. (*1896), Rockland, Me.
1905	Hoag, Ernest B., 309 E. Colorado, Pasadena, Cal.
1881	*Hodgdon, Richard L. (*Jan. 30, 1893), Arlington, Mass.
1878	*Hodge, Hugh Lenox (*1881), Philadelphia, Pa.
1898	Hoff, John V., U. S. A.
1884	Holland, James W., 2006 Chestnut, Philadelphia, Pa.
1897	Hollopeter, William C., 1428 N. Broad, Philadelphia, Pa.
1897	Holmes, A. Mansfield, 205 Jackson Block, Denver, Col.
1893	Holmes, Bayard, 104 E. 40, Chicago, Ill.
1882	*Holmes, Edward L. (*Feb. 12, 1900), Chicago, Ill.
1906	Holmes, Jesse G., Alamagordo, N. M.
1904	*Holmes, Lawrence F. (*Feb. 5, 1908), Biltmore, N. C.
1902	Holton, Henry D., Brattleboro, Vt.
1904	*Hoople, Nelson H. (*May 5, 1905), Brooklyn, N. Y.
1903	Hoover, Percy D., Waynesboro, Pa.
1882	*Hopkins, George G. (*May 23, 1908), Brooklyn, N. Y.
1888	Hough, Garry de N., 542 County, New Bedford, Mass.
1891	House, Charles F., Painesville, O.
1905	Houston, James P., 1180 Sheffield Ave., Chicago, Ill.
1882	*How, Lyman B. (*1893), Manchester, N. H.
1904	Howe, William A., Phelps, N. Y.
1905	Hoxie, George H., 317 Argyl Building, Kansas City, Mo.
1903	Hoye, Henry J., 194 Broad, Providence, R. I.
1890	Hubbard, William N., 53 W. 54, New York, N. Y.
1889	*Hubbell, Charles L. (*1890), Williamstown, Mass.
1885	*Huger, William H. (*Dec. 17, 1906), Charlestown, S. C.
1902	Huggins, Walter L., 704 Union St., Schenectady, N. Y.
1905	Hulst, Henry, 88 Fountain, Grand Rapids, Mich.
1908	Hummel, Ray C., 140 S. 13th, Lincoln, Neb.

* Deceased.

Date of election.	
1901	Hunner, Guy L., 1420 Eutaw Pl., Baltimore, Md.
1906	Hunt, Charles H., 609 Congress, Portland, Me.
1888	*Hunt, Henry H. (*1894), Portland, Me.
1889	Hunter, Charles H., 519 1st Ave., Minneapolis, Minn.
1904	Hurd, Albert G., Milbury, Mass.
1890	Hurd, Arthur W., State Hospital, Buffalo, N. Y.
1889	Hurd, Henry M., Johns Hopkins Hospital, Baltimore, Md.
1878	*Hutchins, Alexander (*July 23, 1906), Brooklyn, N. Y.
1890	Hutchinson, Woods, 38 E. 49, New York, N. Y.
1884	Hyde, James N., 100 State, Chicago, Ill.
1905	Inglis, John, 1675 Logan, Denver, Colo.
1898	Irish, John C., 219 Central, Lowell, Mass.
1905	Irons, Ernest E., 103 State, Chicago, Ill.
1879	*Irwin, Crawford (*Oct. 7, 1900), Hollidaysburg, Pa.
1888	Isham, George S., 468 N. State, Chicago, Ill.
1906	Jackson, Amos M., Fall River, Mass.
1889	*Jackson, A. Reeves (*Nov. 12, 1892), Chicago, Ill.
1882	Jackson, Edward, 1434 Glenarm, Denver, Colo.
1900	Jackson, John H., Fall River, Mass.
1906	Jackson, Fred K., Burlington, Vt.
1907	Jackson, R. H., Madison, Wis.
1905	Jackson, Thomas J., 521 E. 39, Chicago, Ill.
1889	*Jacobs, Luther D. (*Apr. 28, 1904), Emporia, Kas.
1884	*Jaggard, William W. (*1896), Chicago, Ill.
1892	Jenkins, Wilbur O., 14 S. 7, Terre Haute, Ind.
1886	Jennings, Samuel D., Sewickly, Pa.
1905	JEPSON, WILLIAM, 2000 Jackson, Sioux City, Ia.
1879	Jewett, Charles, 330 Clinton Ave., Brooklyn, N. Y.
1894	Jewett, Charles S., 892 Main, Buffalo, N. Y.
1888	Johnson, Anna H., Redlands, Calif.
1898	Johnson, Frank M., 43 Tremont, Boston, Mass.
1884	Johnson, Frank S., 2521 Prairie Ave., Chicago, Ill.
1897	*Johnson, George W. (*June 4, 1906), Chicago, Ill.
1884	*Johnson, Hosmer A. (*1891), Chicago, Ill.
1892	Johnson, John G., 493 Woodward Ave., Detroit, Mich.
1882	Johnson, Joseph Tabor, 1728 K, N. W., Washington, D. C.
1897	Johnson, Woodbridge O., Fu San, Korea.
1905	Johnston, Ellis A., Cary Station, Ill.
1895	*Johnston, R. Erskine (*Apr. 3, 1901), Danville, Pa.
1889	*Johnstone, A. W. (*1905), Danville, Ky.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1889	*Jones, C. George (*——), Jacksonville, Ill.
1899	Jones, Howard, Circleville, O.
1904	Jones, Philip Mills, Butler Bldg., San Francisco, Calif.
1880	*Jones, Samuel J. (*Oct. 4, 1901), Chicago, Ill.
1907	Jones, Walter C., 1358 Dakin, Chicago, Ill.
1897	*Jordan, James R. (*1898), Montgomery, Ala.
1889	*Joy, Henry L. (*1892), Marshall, Mich.
1900	Joy, J. Addison, 1920 Pacific Ave, Atlantic City, N. J.
1878	Judson, Adoniram B., 53 Washington Sq., New York, N. Y.
1907	Juettner, Otto, The Berkshire, Cincinnati, O.
1905	Kallenburg, Henry F., 153 La Salle, Chicago, Ill.
1886	*Kearns, W. D. (*——), Pittsburgh, Pa.
1879	*Kedzie, Robert C. (*Nov. 7, 1902), Agricultural College, Mich.
1899	Keen, William W., 1729 Chestnut, Philadelphia, Pa.
1895	*Keene, George F. (*Mar. 13, 1905), Cranston, R. I.
1891	*Keeney, James F. (*1894), U. S. N.
1892	Kelley, Richmond, First and Jefferson, Portland, Or.
1894	Kellogg, E. Wells, 420 Mitchell, Milwaukee, Wis.
1900	Kelly, Aloysius O. J., 1911 Pine, Philadelphia, Pa.
1906	Kelsey, Charles B., 44 E. 29, New York, N. Y.
1905	‡Kelso, Curtis E.
1883	*Kemper, Andrew C. (Aug. 15, 1905), Cincinnati, O.
1889	Kennedy, Josiah F., 942 Potter Park, Los Angeles, Cal.
1905	Kerr, Ellis Kirk, 103 State, Chicago, Ill.
1884	*Kerr, James W. (*June 10, 1889), York, Pa.
1889	Kessel, George, Cresco, Ia.
1870	*Keyser, Peter D. (*1897), Philadelphia, Pa.
1898	Kickland, William A., Ft. Collins, Colo.
1889	Kidder, F. Thomas, Woodstock, Vt.
1893	Kiefer, Guy L., 168 Harper Ave., Detroit, Mich.
1890	Kiefer, Hermann, 89 E. Forest Ave., Detroit Mich.
1877	*Kieffer, Stephen, Carlisle, Pa.
1889	*Kimball, Arthur S. (*1894), Battle Creek, Mich.
1888	Kinch, Charles A., 273 W. 70, New York, N. Y.
1889	King, Alfred, 610 Congress, Portland, Me.
1899	King, William H., 103 Narberth Ave., Narberth, Pa.
1906	Kinnear, Theron James, 505 Myers Bldg., Springfield, Ill.
1899	Kinsman, David N., Vendome Hotel, Columbus, O.
1905	Kirtly, Howard P., Cook Co. Hospital, Chicago, Ill.
1905	Klebs, Arnold C., 100 State, Chicago, Ill.
1886	Kline, W. J. K., Greensburg, Pa.

* Deceased. ‡ Removed, present address unknown.

Date of election.	
1892	Knapp, Charles P., Wyoming, Pa.
1898	KNIGHT, CHARLES A., Peekskill, N. Y.
1889	Knight, Charles H., 147 W. 57, New York, N. Y.
1897	Knopf, S. Adolphus, 16 W. 95, New York, N. Y.
1888	*Knox, James S. (*1892), Chicago, Ill.
1893	Knox, Samuel B. P., 912 Anacapa, Santa Barbara, Calif.
1884	*Kollock, Cornelius (*1897*), Cheraw, S. C.
1889	Kreider, George N., 522 Capitol Ave., Springfield, Ill.
1907	Krohn, William O., 6332 Lexington Ave., Chicago, Ill.
1897	Kunkel, George B., Harrisburg, Pa.
1903	Kunkel, Henry, Kingston, Pa.
1899	Kyle, D. Braden, 1517 Walnut, Philadelphia, Pa.
1889	Kynett, Harold H., 614 S. 48th, Philadelphia, Pa.
1896	*Lackersteen, Mark H. (*1897), Chicago, Ill.
1898	La Force, William B., Ottumwa, Ia.
1908	Lanahan, Joseph A., 99 Eagle, Albany, N. Y.
1882	*Landis, Henry G. (*1886), Columbus, O.
1889	Landon, Henry B., 6 Fay Block, Bay City, Mich.
1905	Lane, Francis A., 905 Venetian Building, Chicago, Ill.
1905	Langfitt, William S., 608 Fulton Building, Pittsburgh, Pa.
1892	Lansing, James B. W., Tenafly, N. J.
1890	Laplace, Ernest, 1828 Rittenhouse Sq., Philadelphia, Pa.
1876	*Larison, George H. (*March, 1892), Lambertville, N. J.
1891	*Lash, Josiah W. (*Dec. 12, 1902), Chillocothe, O.
1879	*Lathrop, Horace (*July 11, 1905), Cooperstown, N. Y.
1897	Lathrop, Ruth W., 1415 N. 17th, Philadelphia, Pa.
1906	Lathrop, William H., 21 First, Lowell, Mass.
1907	Lawrence, F. F., 328 State, Columbus, O.
1901	Leach, Sydney, Tuscalsosa, Ala.
1879	Leaman, Henry, N. W. cor. Broad and Parish, Philadelphia, Pa.
1888	Learned, William T., 42 Franklin, Fall River, Mass.
1906	Le Boutillier, William G., 40 W. 50th, New York, N. Y.
1877	*Lee, Benjamin*, Department of Health, Harrisburg, Pa.
1880	*Lee, Charles C. (*1893), New York, N. Y.
1901	Le Fevre, Egbert, 52 W. 56th, New York, N. Y.
1894	Leffmann, Henry, 1839 N. 17th, Philadelphia, Pa.
1901	Leighton, Charles M., 365 Congress, Portland, Me.
1894	Leland, George A., 354 Commonwealth Ave., Boston, Mass.
1879	*Lente, Frederick D. (*1883), New York, N. Y.
1905	Leonard, Henry S., 1203 E., 19th, Indianapolis, Ind.
1903	Leopold, Isaac, 1518 N. Franklin, Philadelphia, Pa.
1888	Lester, John C., 179 Schermerhorn, Brooklyn, N. Y.
1905	Leusman, Frederick A., 100 State, Chicago, Ill.

Names in SMALL CAPITALS life members. * Deceased. Names in *Italics* retired fellows.

Date of election.	
1884	*Levis, Richard J. (*1890), Philadelphia, Pa.
1893	Lewis, A. B., Hamilton, Kas.
1889	Lewis, Charles H., 301 Forest, Jackson, Mich.
1890	Lewis, Daniel, 616 Madison Ave., New York, N. Y.
1887	*Lewis, Edwin R. (*Jan. 31, 1907), Washington, D. C.
1897	Lewis, Henry F., 4426 Lake Ave., Chicago, Ill.
1891	Lewis, James R., Grinnell, Ia.
1905	Lewis, Thomas H., 424 N. State, Chicago, Ill.
1897	Lichty, John A., 4634 Fifth Ave., Pittsburgh, Pa.
1905	Lieberthall, David, 103 State, Chicago, Ill.
1901	Light, Gertrude U., Woman's University Club, 17 Madison Sq.,N. New York, N. Y.
1881	*Lincoln, Nathan S. (*1898), Washington, D. C.
1883	*Lincoln, Rufus P. (*Nov. 27, 1900), New York, N. Y.
1877	*Lindsley, John B. (*1897), Nashville, Tenn.
1900	Link, Joseph A., Springfield, O.
1890	Lippincott, James A., 435 Penn Ave., Pittsburgh, Pa.
1902	Littig, Lawrence W., First National Bank Building, Iowa City, Ia.
1882	*Little, William S. (*1887), Philadelphia, Pa.
1893	Littlefield, George H., 361 Neponset Ave., Boston, Mass.
1902	Lobingier, A. Stewart, 608 H. W. Hellman Building, Los Angeles, Calif.
1905	Lockwood, Charles D., Pasedena, Calif.
1897	Loeb, Hanau W., Y. M. C. A. Building, St. Louis, Mo.
1885	Logan, Harry V., 306 N. Washington, Scranton, Pa.
1893	Longsdorf, Harold H., Dickinson, Pa.
1906	*Loomis, Henry P. (*Dec. 22, 1907), New York, N. Y.
1897	*Lott, William C. (*Jan. 22, 1907), Philadelphia, Pa.
1878	*Love, John J. H. (*1897), Montclair, N. J.
1896	*Ludlow, Edmund (*April 5, 1903), Paxton, Ill.
1902	Lybolt, Archibald, 280 W. 127th, New York, N. Y.
1881	*Lyman, Henry M. (*Nov., 21 1904), Chicago, Ill.
1879	Lyons, Frederick A., 50 E. 63d, New York, N. Y.
1908	McAlister, John B., Harrisburg, Pa.
1901	McBRIDE, JAMES H., Pasadena, Calif.
1881	*McBride, Thomas A. (*1886), New York, N. Y.
1889	McCaskey, George W., 407 W. Main, Fort Wayne, Ind.
1897	McClintock, Charles, 270 Woodward Ave., Detroit, Mich.
1888	McCollister, Elisha A., Lewiston, Me.
1894	McCulloch, Champe C., U. S. A.
1892	*McCulloch, J. T. (*1904), Freeport, Pa.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1901	McDonough, Edward J., 624 Congress, Portland, Me.
1877	McINTIRE, CHARLES, Easton, Pa.
1878	McKenzie, William, Conshohocken, Pa.
1884	McMurtry, Louis S., 1912 6th, Louisville, Ky.
1905	McNeill, H. Iles, Newman, Ill.
1893	McNutt, H. E., Aberdeen, S. Dak.
1892	McWilliams, Samuel A., 3456 Michigan Ave., Chicago, Ill.
1905	MacChesney, William N., 1620 Otto Boul., Chicago Heights, Ill.
1908	Macdonald, John B., Augusta, Me.
1889	*MacDonnell, R. Lee (*1891), Montreal, Canada.
1901	*Machan, George S. (*April 6, 1901), Providence, R. I.
1898	MacLaren, William S., Litchfield, Conn.
1915	Maclay, Otis H., 6412 Greenwood Ave., Chicago, Ill.
1900	§Magill, William S.
1887	Magruder, George L., 815 Vermont Ave., N. W., Washington, D. C.
1889	§Major, George W.
1897	Makuen, G. Hudson, 1627 Walnut, Philadelphia, Pa.
1897	Manges, Morris, 941 Madison Ave., New York, N. Y.
1889	Marble, John, 16 Murray Ave., Worcester, Mass.
1897	Marchand, Jacob F., 133 N. Cleveland Ave., Canton, O.
1879	Marcy, Henry O., 180 Commonwealth Ave., Boston, Mass.
1900	Marcy, Henry O., Jr., 180 Commonwealth Ave., Boston, Mass.
1905	Marquis, George P., 103 State, Chicago, Ill.
1889	Marshall, Cuvier R., 876 Jefferson Ave., Detroit, Mich.
1885	Marshall, George W., Milford, Del.
1899	Marshall, John S., The Presidio, San Francisco, Calif.
1895	Martin, Francis C., 27 Dudly St., Roxbury, Mass.
1885	*Maryott, E. Edgar (*1904), Springfield, Mass.
1891	*Mason, Jarvis K. (*Apr. 8, 1905), Suffield, Conn.
1888	Mason, William C., Bangor, Me.
1895	Massie, Joseph P., Richmond, Va.
1889	§Matthews, F. M.
1897	Matthews, George S., 419 Cranston, Providence, R. I.
1879	Matthewson, Arthur, 139 Montague, Brooklyn, N. Y.
1908	Mattison, Fitch C. E., Pasadena, Calif.
1890	Matzinger, Herman G., 519 Franklin, Buffalo, N. Y.
1890	Maurer, J. M., 502 E. Sunbury, Shamokin, Pa.
1897	May, Charles H., 698 Madison Ave., New York, N. Y.
1890	Mayberry, Charles B., Retreat, Pa.
1904	Mayer, Edward E., 524 Penn Ave., Pittsburg, Pa.
1899	Medberry, Josiah, Lenox Hotel, Columbus, O.

* Deceased. Names in SMALL CAPITALS life members.

§ Removed, present address not known.

Date of election.	
1877	Meisenhelder, Edmund W., 320 W. Market, York, Pa.
1889	Merriman, Henry P., 1333 De la Vina, Santa Barbara, Calif.
1889	Merrit, Emma S., 2323 Washington, San Francisco, Calif.
1892	Merz, Charles H., Sandusky, O.
1898	Metcalf, Henry, Mt. Carroll, Ill.
1891	Mettler, L. Harrison, 100 State, Chicago, Ill.
1892	*Meyer, J. M. (*Sep. 5, 1901), Danville, Ky.
1890	Mial, Leonidas L., 139 W. 12th, New York, N. Y.
1904	Michler, Henry D., 134 N. 3d, Easton, Pa.
1903	Milan, Michael B., 1582 Westminster, Providence, R. I.
1883	Miles, George W., Oneida, N. Y.
1889	*Millard, Henry B. (*1893), New York, N. Y.
1906	Miller, Albert E., 19 George, Providence, R. I.
1904	Miller, Ansil I., 25 High St., Brattleboro, Vt.
1904	Miller, D. C. R., Mason and Dixon, Pa.
1881	*Miller, Horace G. (*May 29, 1908), Providence, R. I.
1905	Miller, Joseph L., 100 State, Chicago, Ill.
1905	Miller, Sumner M., 701 Main, Peoria, Ill.
1897	Miller, Walter McN., Columbia, Mo.
1889	*Mills, Hiram R. (*Nov. 29, 1906), Grand Rapids, Mich.
1884	*Miner, Joshua L. (*1889), Wilkes-Barre, Pa.
1885	Mitchell, Alfred, Brunswick, Me.
1905	Mitchell, Alfred, Jr., Y. M. C. A. Buildiig, Portland, Me.
1879	*Mitchell, Chauncey L. (*1888), Brooklyn, N. Y.
1892	*Mitchell, Giles S. (*May 5, 1904), Cincinnati, O.
1892	Mitchell, Matthew R., 605 Kansas Ave., Topeka, Kas.
1897	Montgomery, Edward E., 1703 Walnut, Philadelphia, Pa.
1901	Moore, Hugh M., Oxford, O.
1882	*Moore, J. Fred. (*1893), Brooklyn, N. Y.
1878	Moore, James W., Easton, Pa.
1890	Moore, John H., Bridgeton, N. J.
1884	*Moorehouse, George R. (*Nov. 19, 1905), Philadelphia, Pa.
1880	Morris, J. Cheston, 1514 Spruce, Philadelphia, Pa.
1906	Morris, John G., 97 Broadway, South Boston, Mass.
1899	Morris, J. W., Fenton Building, Jamestown, N. Y.
1883	Morrow, Prince A., 66 W. 40, New York, N. Y.
1884	*Morton, Douglas (*1892), Louisville, Ky.
1880	*Morton, Lloyd (*1888), Pawtucket, R. I.
1889	Moses, Thomas F., Waltham, Mass.
1901	Mott, John S., 9th and Grand Ave., Kansas City, Mo.
1904	Motter, Murray Galt, 1841 Summit Ave,. Washington, D. C.
1897	Moulton, Albert R., 49th and Market, Philadelphia, Pa.

* Deceased.

Date of election.	
1894	*Moulton, Charles F. (*1906), West Roxbury, Mass.
1905	Moulton, Willis B., 622 Congress, Portland, Me.
1882	*Muhlenberg, Francis (*1894), Lancaster, Pa.
1882	Muhlenberg, William F., 34 Fifth, Reading, Pa.
1882	*Mulford, Isaac B. (*1883), Camden, N. J.
1889	*Mulhall, Joseph C. (*Jan 11, 1900), St. Louis, Mo.
1905	Munro, John C., 173 Beacon, Boston, Mass.
1906	Munro, Walter L., 62 N. Main, Providence, R. I.
1900	Murray, William R., 602 Nicollet Ave., Minneapolis, Minn.
1890	Musser, Charles S., Aaronsburg, Pa.
1905	Myers, Edward M., 722 Story, Boone, Ia.
1897	de Nancrede, Charles B. G., 720 S. University Ave., Ann Arbor, Mich.
1888	Needham, George G., 218 E. 18th, New York, N. Y.
1882	Nelson, Daniel T., 2400 Indiana Ave., Chicago, Ill.
1889	Nelson, Edwin M., 965 Hamilton Ave., St.Louis, Mo.
1884	*Nelson, Samuel N. (*1893), Revere, Mass.
1898	Newcombe, James E., 118 W. 69th, New York, N. Y.
1879	*Newcomet, Henry W. (*1885), Philadelphia, Pa.
1900	Newhart, Horace, 837 Andrus Building, Minneapolis, Minn.
1897	Newman, Henry P., 438 La Salle Ave., Chicago, Ill.
1895	Newton, Edwin D., Athens, Ga.
1889	*Nichol, William L. (*June 23, 1901), Nashville, Tenn.
1905	Nichols, Roscoe T., Liberal, Kas.
1895	Niesley, Charles M., Manhasset, N. Y.
1900	Nisbet, James D., 34 W. 50th, New York, N. Y.
1890	Noble, Henry S., Middletown, Conn.
1901	Noble, Mary R., Lodiana, Punjaub, India.
1888	O'Brion, Charles C., Groveton, N. H.
1888	O'Donavan, Charles, 10 E. Read, Baltimore, Md.
1894	O'Neill James B. 519 Congress, Portland, Me.
1885	Oakes, Wallace K., 60 High, Auburn, Me.
1903	Ogle, William M., Primero, Colo.
1898	Olds, Frank W., Williamstown, Mass.
1894	Oliver, Charles A., 1507 Locust, Philadelphia, Pa.
1898	Osborn, George W., 888 Broad, Bridgeport, Conn.
1885	*Osgood, William (*1894), North Yarmouth, Me.
1884	Otis, Edward O., 381 Beacon, Boston, Mass.
1878	Ott, Isaac, 18 N. 4, Easton, Pa.
1889	Overfield, Adam, Houghton, Mich.
1885	Packard, Charles A., Bath, Me.
1888	*Packard, Frederick A. (*Nov. 1, 1902), Philadelphia, Pa.

* Deceased.

Date of election.	
1889	*Packard, John H. (*May 21, 1907), Philadelphia, Pa.
1889	*Page, H. R. (*1891), Des Moines, Ia.
1897	Paine, Arthur R., 211 Lafayette Ave., Brooklyn, N. Y.
1879	*Pancoast, William H. (*1897), Philadelphia, Pa.
1888	*Park, John G. (*Aug. 30, 1905), Worcester, Mass.
1897	Parker, Wallace A., Springfield, Mass.
1898	Partree, Homer T., Eatontown, N, J.
1880	*Parvin, Theophilus (*1898), Philadelphia, Pa.
1889	Patterson, E. Blanchard, Phillipsburg, Mont.
1903	Patterson, Stuart, 5541 Ellsworth Ave., Pittsburg, Pa.
1883	*Patzki, Julius H.*, U. S. A.
1891	*Peck, George (*July 27, 1906), Elizabeth, N. J.
1898	Peck, George B., 865 Main, Providence, R. I.
1895	Peckham, Frank E., 53 Governor, Providence, R. I.
1898	*Pegram, John C., Jr. (*1906), Providence, R. I.
1901	Penrose, Clement A., 21 W. Mt. Royal Ave., Baltimore, Md.
1889	Penrose, Charles B., 1331 Spruce, Philadelphia, Pa.
1882	*Pepper, William (*1898), Philadelphia, Pa.
1880	Perkins, Francis M., 1428 Pine, Philadelphia, Pa.
1882	Perry, Charles H., 900 Main, Worcester, Mass.
1891	Peterson, Reuben, Ann Arbor, Mich.
1905	Philips, Charles E., Ancon Hospital, Canal Zone, Panama.
1892	Phillips, Ellis, 32 Woodruff Ave., Columbus, O.
1892	Phillips, G. W., Lewiston, Me.
1897	*Phillips, Thomas H. (*Aug. 30, 1902), Canton, O.
1891	*Phillips, William W. L. (*1896), Trenton, N. J.
1882	Pickett, Thomas E., 213 Wall, Maysville, Ky.
1895	Pilcher, James Evelyn, Carlisle, Pa.
1879	Pilcher, Lewis S., 145 Gates Ave., Brooklyn, N. Y.
1878	*Pinkney, Howard (*1888), New York, N. Y.
1904	Pleasants, J. Hall, 16 W. Chase, Baltimore, Md.
1897	Plummer, Charles G., Mercantile Block, Salt Lake City, Utah.
1905	Plummer, Samuel C., 34 Washington, Chicago, Ill.
1908	Pohl, Harvey C., Nazareth, Pa.
1892	Pontius, Paul J., 1829 Chestnut, Philadelphia, Pa.
1882	Porter, George L., 266 State, Bridgeport, Conn.
1880	*Porter, George W.*, 46 Hereford, Boston, Mass.
1885	Post, M. Hayward, 5371 Waterman, St. Louis, Mo.
1897	Post, Silas B., 222 N. Cleveland Ave., Canton, O.
1904	Pottenger, Francis M., Monrovia, Cal.
1905	POWERS, GEORGE H., 1822 Pacific Ave., San Francisco, Calif.
1888	*Pratt, H. D. V., Jr. (*Jan. 12, 1899), Elmira, N. Y.

* Deceased Names in *Italics* retired fellows. Names in SMALL CAPITALS life members.

Date of election.	
1907	Pray, Gilbert L., Lake City, Ia.
1905	Preble, Robert B., 103 State, Chicago, Ill.
1888	Presbrey, Silas D., 103 Wier, Taunton, Mass.
1903	Price, Henry R., 435 Clinton Ave., Brooklyn, N. Y.
1897	*Probasco, J. B. (*Feb. 25, 1908), Plainfield, N. J.
1894	Pudor, Gustav A., 134 Free, Portland, Me.
1893	Puls, Arthur J., 1217 Wells Building, Milwaukee, Wis.
1898	Pulsford, Henry A., 139 S. Orange Ave., South Orange, N. J.
1904	*Purinton, Lester B. (*Nov. 13, 1903), Yarmouth, Me.
1894	Putnam, Harry L., Houlton, Me.
1892	Putnam, Helen C., Providence, R. I.
1895	Pyle, Walter L., 1806 Chestnut, Philadelphia, Pa.
1888	Rae, Alexander, 117 Henry, Brooklyn, N. Y.
1889	*Ranney, Ambrose L. (*Dec. 1, 1905), New York, N. Y.
1897	Ravogli, Augustus, 5 Garfield Place, Cincinnati, O.
1877	*Rea, James C. (*1886), Pittsburg, Pa.
1884	*Read, Ira B. (*1897), New York, N. Y.
1889	Reddy, Herbert L., 999 Dorchester, Montreal, Canada.
1905	Reed, Edward N., LaCrosse, Wis.
1882	*Reed, Joseph A. (*1884), Dixmont, Pa.
1897	Reed, Robert J., 73 12th, Wheeling, W. Va.
1882	*Reed, Thomas B. (*1891), Philadelphia, Pa.
1900	Reed, W. Boardman, Alhambra, Calif.
1888	Reed, William G., Southbride, Mass.
1889	Reeve, Richard A., 48 Blooer, E. Toronto, Canada.
1879	*Reiley, George W. (*1892), Harrisburg, Pa.
1906	Reynolds, Edward, 65 Marlborough, Boston, Mass.
1888	*Rex, George A. (*1895), Philadelphia, Pa.
1905	Rhodes, Ora M., Bloomington, Ill.
1888	Rice, William E., Bath, Me.
1888	*Rich, Joshua B. (*Feb. 1896), Worcester, Mass.
1891	Rider, Wheelock, 53 S. Fitzhugh, Rochester, N. Y.
1885	*Ring, Charles A. (*July 8, 1903), Portland, Me.
1888	*Ring, Frank W. (*1896), New York, N. Y.
1899	Risley, Samuel D., 1728 Chestnut, Philadelphia, Pa.
1898	Ritchie, Harry Parks, 350 St. Peter, St. Paul, Minn.
1894	Robbins, J. E., Danville, Pa.
1879	Roberts, John B., 313 S. 17th, Philadelphia, Pa.
1906	Roberts, Stephen M., Nantucket, Mass.
1903	Roberts, Walter, 1732 Spruce, Philadelphia, Pa.
1908	Robie, Walter F., Baldwinsville, Mass.

* Deceased.

Date of election.	
1885	Robinson, Daniel A., 142 Hammond, Bangor, Me.
1892	Robinson, R., 656 12th Ave., Lorain, O.
1884	Robison, John A., 152 Kennesaw Terrace, Chicago, Ill.
1897	*Roche, de la, C. Percy (*Mar. 12, 1907), Philadelphia, Pa.
1893	Rochester, Delancey, 469 Franklin, Buffalo, N. Y.
1879	Rockwell, A. D., 58th and Madison Ave., New York, N. Y.
1891	Rogers, Arthur C., Faribault, Minn.
1897	Rogers, Daniel W., 2204 Michigan Ave., Chicago, Ill.
1897	Rogers, Frederick T., 117 Broad, Providence, R. I.
1898	Rogers, John B., North Bloomfield, Cal.
1895	*Rohe, George H. (*Feb. 6, 1899), Skyesville, Md.
1899	Ruddick, William H., 502 E. Broadway, South Boston, Mass.
1889	Rutherford, Clarendon, 646 Fullerton Ave., Chicago, Ill.
1878	*Ryerson, Thomas (*1887), Newton, N. J.
1908	Sabine, Jane D. Kelly, 481 Beacon, Boston, Mass.
1889	*Salisbury, James N. (*1898), Russelville, O.
1907	Sanders, William E., Alta, Iowa.
1878	*Sandt, John (*1889), Easton, Pa.
1879	*Sanford, Leonard J. (*1896), New Haven, Conn.
1878	SANTEE, EUGENE I., 532 N. 6th, Philadelphia, Pa.
1891	Sargent, Dudley A., Hemenway Gymnasium, Cambridge, Mass.
1891	Sartain, Paul J., 212 W. Logan Sq., Philadelphia, Pa.
1898	Savage, Watson L., 308 W. 59, New York, N. Y.
1890	SAYRE, REGINALD H., 285 Fifth Ave., New York, N. Y.
1889	Schauffler, Edward W., N. E. cor. 12th and McGee, Kansas City, Mo.
1901	Schauffler, William G., Lakewood, N. J.
1892	Scheel, A. M., Belleville, Ill.
1878	SCHENCK, PETER L., 95 Sixth Ave., Brooklyn, N. Y.
1882	*Schenck, Tunis (*Aug. 15, 1899), Bath Beech, N. Y.
1905	Schiller, Heliodor, 42 E. 39th, Chicago, Ill.
1898	Schneideman, Theodore B., 1831 Chestnut, Philadelphia, Pa.
1905	Schofield, Joseph R., Spirit Lake, Ia.
1877	Schoonover, Warren, 115 E. 59, New York, N. Y.
1877	*Schultz, Solomon S. (*1891), Danville, Pa.
1895	de Schweinitz, George E., 1705 Walnut, Philadelphia, Pa.
1890	Schwenk, Peter N. K., 810 N. 7th, Philadelphia, Pa.
1878	Scott, J. McPherson, 129 W. Washington, Hagerstown, Md.
1882	Scott, Xenophon C., 127 Euclid Ave., Cleveland, O.
1888	Scribner, Ernest V., Box 1178, Worcester, Mass.
1896	Searcy, J. T., Tuscaloosa, Ala.
1897	Sechrist, Cora S., 176 Euclid Ave., Cleveland, O.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1907	Secor, William L., La Grange, Ill.
1882	*Seely, W. W. (*Nov. 7, 1903), Cincinnati, O.
1876	Sell, Edward H. M., White Plains, N. Y.
1903	Sewall, Henry, Majestic Builiding, Denver, Col.
1884	*Shakespeare, Edwin O. (*June 1, 1900), Philadelphia, Pa.
1895	Shanon, John R., Cabaniss, Ga.
1877	*Shapleigh, Elisha B. (*1892), Philadelphia, Pa.
1885	Shapleigh, John B., 3621 Washington Ave., St. Louis, Mo.
1896	Shastid, Thomas Hall, Marion, Ill.
1905	Shaw, Thomas B., 47 Pleasant, Worcester, Mass.
1886	Shaw, William C., 1009 Wylie Ave., Pittsburgh, Pa.
1877	*Shearer, James M. (*1881), Dillsburg, Pa.
1890	Shearer, Niles H., York, Pa.
1882	Sheldon, Charles S., Madison, Wis.
1901	Sheldon, Horace W., Negaunee, Mich.
1904	Shelton, G. A., 40 White, Shelton, Conn.
1897	Sheppard, John E., 130 Montague, Brooklyn, N. Y.
1905	Sherman, Harry M., 2126 Jackson, San Francisco, Calif.
1903	Sherrer, H. Straub, Bangor, Pa.
1889	Sherrill, Edwin S., 270 Woodward Ave., Detroit, Mich.
1908	Sherry, Henry, Stanton Bldg., Pasadena, Calif.
1902	Shimer, Ira A., U. S. A.
1907	Shimer, Sterling D., 120 N. 3d, Easton, Pa.
1878	Shoemaker, John V., 1519 Walnut, Philadelphia, Pa.
1890	Shoemaker, Levi I., 59 S. Franklin, Wilkes-Barre, Pa.
1878	*Shrady, George F. (*Nov. 30, 1907), New York, N. Y.
1878	Shrady, John, 140 W. 126, New York, N. Y.
1897	Shurly, Burt R., 544 Jefferson Ave., Detroit, Mich.
1876	*Sibbet, Robert Lowry (*Oct. 30, 1898), Carlisle, Pa.
1907	Sihler, Christian, 2700 Vestry, Cleveland, O.
1899	Silver, Edward V., 9 Mercantile Block, Salt Lake City, Utah.
1890	*Simmons, Arthur R. (*Mar. 27, 1904), Utica, N. Y.
1889	Simmons, Charles E., 762 Madison Ave., New York, N. Y.
1905	Simmons, George H., 103 Dearborn Ave., Chicago, Ill.
1888	Simmons, William H., Bangor, Me.
1897	Simmons, Warren S., Jr., 216 St. James Pl., Brooklyn, N. Y.
1907	Simpson, Frank F., 1112 Bessemer Building, Pittsburg, Pa.
1888	Simpson, Frederick T., 122 High, Hartford, Conn.
1906	Simpson, John N., Morgantown, W. Va.
1890	*Sinne, Hans H. (*1891), Trenton, N. J.
1905	*Skelton, Leonard L. (1906), Chicago, Ill.
1905	Slaymaker, Samuel R., 100 State St., Chicago, Ill.

* Deceased.

Date of election.	
1890	Sleeper, Frank E., Sabatis, Me.
1892	Sloan, Henry H., 684 Washington Boulevard, Chicago, Ill.
1886	*Sloan, James G. (*1897), Monongahela City, Pa.
1888	Small, Freeman E., 198 High, Portland, Me.
1878	*Smith, Albert H. (*1885), Philadelphia, Pa.
1888	Smith, Andrew R. G., North Whitefield, Me.
1893	Smith, Bryant, 136 Wisconsin, Milwaukee, Wis.
1888	Smith, Charles D., 126 Free, Portland, Me.
1880	*Smith, Charles G. (*1894), Chicago, Ill.
1898	Smith, Edward W., 34 W. Main, Meriden, Conn.
1891	*Smith, George E. (*1905), Oberlin, O.
1895	Smith, Henry H., 43 Elm, New Haven, Conn.
1891	Smith, Joseph R., U. S. A. Ret., 2300 De Lancey Pl., Philadelphia, Pa.
1883	Smith, Thomas J., 32 W. Commerce, Bridgeton, N. J.
1888	Smith, Thomas P., Westbrook, Me.
1889	Smith, William H., Shell Rock, Ia.
1882	Smith, William Thayer, Hanover, N. H.
1891	Smock, Ledru P., 3330 Chestnut, Philadelphia, Pa.
1897	Snipe, Langdon T., Bath, Me.
1893	Snively, I. Newton, 1617 N. Broad, Philadelphia, Pa.
1879	*Snively, Joseph C. (*1885), Brooklyn, N. Y.
1879	*Snow, Edwin M. (*1888), Providence, R. I.
1900	Snyder, Thomas, 1919 Main, Niagara Falls, N. Y.
1908	Solenbergers, Amos R., Colorado Springs, Colo.
1901	Somerville, William G., Tuscaloosa, Ala.
1895	Southard, W. F., 1914 Pine, San Francisco, Cal.
1904	Spalding, Fred. M., 177 Bay State Road, Boston, Mass.
1895	SPALDING, JAMES A., 627 Congress, Portland, Me.
1881	*Spare, John (May 22, 1901), New Bedford, Mass.
1899	Spaulding, Frank W., Clifton Springs, N. Y.
1892	*Speed, J. N. (*1900), Rushville, Ill.
1905	Speed, Kellogg, 100 State, Chicago, Ill.
1891	Springer, Willard, 810 Washington, Wilmington, Del.
1905	Stacey, Harley J., Alamagordo, N. M.
1878	Stahley, George D., Gettysburg, Pa.
1888	Stanwood, Robert G., 117 N. 6th, Newark, N. J.
1905	Stanton, Samuel C., 1040 Sheridan Road, Chicago, Ill.
1889	Staples, Allen, Bank and Insurance Building, Dubuque, Ia.
1889	*Staples, George M. (*1895), Dubuque, Ia.
1894	Staples, Henry L., Syndicate Block, Minneapolis, Minn.
1904	*Stearns, H. P. (*May 25, 1905), Hartford, Conn.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1908	Stehman, Henry B., Pasadena, Calif.
1876	*Steiner, Lewis S. (*1892), Baltimore, Md.
1902	Steiner, Walter R., 4 Trinity, Hartford, Conn.
1884	Stellwagen, Thomas C., 1809 Chestnut, Philadelphia, Pa.
1903	Stevens, Cyrus L., Athens, Pa.
1883	*Stevens, Charles W. (*Jan. 25, 1901), Charlestown, Mass.
1905	Stevens, James F., 1136 O, Lincoln, Neb.
1884	*Stevenson, J. M. (*1896), Pittsburgh, Pa.
1895	Stewart, W. Blair, North Carolina and Pacific Aves., Atlantic City, N. J.
1876	*Stewart, William S. (*1903), Philadelphia, Pa.
1907	Stitt, Edward R., U. S. Naval Med. School, Washington, D. C.
1883	*Stoddard, E. V. (*June 6, 1908), Rochester, N. Y.
1904	Stone, B. H., 196 Main, Burlington, Vt.
1906	Stone, Ellen A., 157 Benefit, Providence, R. I.
1889	Stone, William G., Montclair, N. J.
1892	*Storer, Samuel F. (*1902), New Concord, O.
1900	Stout, George C., 1611 Walnut, Philadelphia, Pa.
1892	Stout, Joseph, Ottawa, Ill.
1877	*Strawbridge, James D. (*1890), Danville, Pa.
1905	Streeter, Edward C., 435 Beacon, Boston, Mass.
1897	Strickler, Abraham H., 1 W. Main, Waynesboro, Pa.
1897	*Strong, Norton (*Mar. 23, 1903), U. S. A.
1889	Strong, Thomas D., Westfield, N. Y.
1879	Stuart, Francis H., 123 Joralemon, Brooklyn, N. Y.
1877	Stubbs, George E., 1616 Walnut, Philadelphia, Pa.
1898	Stuver, Emanuel, Ft. Collins, Colo.
1900	Summa, Hugo, Metropolitan Bldg., St. Louis, Mo.
1888	*Swan, Charles E. (*July 13, 1908), Calais, Me.
1900	Swarts, Gardner T., 70 Waterman, Providence, R. I.
1892	Swift, Elisha P., Norway, Mich.
1888	Swift, William N., 378 County, New Bedford, Mass.
1892	Sykes, Richard L., Columbus, Miss.
1883	‡Tadlock, A. B.
1892	*Talley, Alexander N. (*1897), Columbia, S. C.
1895	Taneyhill, George L., 1103 Madison Ave., Baltimore, Md.
1889	Tappey, Ernest T., 270 Woodward Ave., Detroit, Mich.
1889	Taylor, James L., Vinita, Oklahoma.
1894	Taylor, J. Madison, 1504 Pine, Philadelphia, Pa.
1878	*Taylor, William F. (*1887), Philadelphia, Pa.
1878	*Thacker, John A. (*1891), Cincinnati, O.

* Deceased. ‡ Removed, present address not known.

Date of election.	
1889	Thayer, Addison S., 10 Deering, Portland, Me.
1892	Thayer, H. W., Netcong, N. J.
1908	Thomas, Harry G., 408 Elm, Greenville, O.
1878	Thomas, James C., 107 W. 47th, New York, N. Y.
1906	Thomason, Aaron H., 106 Warren, Roxbury, Mass.
1888	Thombs, Samuel B., 121 Spring, Portland, Me.
1890	*Thompson, George E. (*Apr. 11, 1908), Boston, Mass.
1889	Thompson, John F., 601 Congress, Portland, Me.
1897	Thomson, Archibald, 1426 Walnut, Philadelphia, Pa.
1897	*Thomson, William (*Aug. 3, 1907), Philadelphia, Pa.
1897	*Thorner, Max (*Aug. 27, 1899), Cincinnati, O.
1886	Thrasher, A. B., 7th and Race, Cincinnati, O.
1901	Tiffany, Frank M., 87 South, Stamford, Conn.
1905	Timberman, Andrew, 112 E. Broad, Columbus, O.
1898	Tinker, Martin B., Clifton Springs, N. Y.
1883	*Todd, William S. (*Feb. 19, 1893), Ridgefield, Conn.
1888	Tolman, Julia, 695 Massachusetts Ave., Arlington, Mass.
1901	TOMLINSON, HENRY A., St. Peter, Minn.
1892	Tomlinson, Joseph, Bridgeton, N. J.
1904	TOREK, FRANZ, 59 E. 60, New York, N. Y.
1894	Totman, David M., 303 Montgomery, Syracuse, N. Y.
1905	Tower, John B., Hibbing, Minn.
1877	Treichler, C. Galen, Honeybrook, Pa.
1897	Tressel, John H., 239 E. Main, Alliance, O.
1888	Trowbridge, Edward H., 54 Pleasant, Worcester, Mass.
1890	*Trowbridge, Grosvenor R. (*May 20, 1908), Buffalo, N. Y.
1888	Tucker, Edward T., 258 Pleasant, New Bedford, Mass.
1902	Tucker, Willis G., 4 Lancaster, Albany, N. Y.
1907	Tuckerman, J. E., 1856 Central Ave., Cleveland, O.
1899	*Tuckerman, Louis B. (*Mar. 5, 1902), Cleveland, O.
1907	Tull, G. A., Clay Center, Kas.
1879	Turnbull, Charles S., 1935 Chestnut, Philadelphia, Pa.
1908	Turnbull, Thomas, Jr., 835 Western Ave., Allegheny, Pa.
1903	Turner, Charles P., 1506 Walnut, Philadelphia, Pa.
1880	*Turner, Joseph M. (*July 2, 1898), Brooklyn, N. Y.
1897	Turner, Oliver W., Augusta, Me.
1891	*Turner, Sylvester W. (*Dec. 9, 1906), Chester, Conn.
1884	*Turner, Thomas J. (*Aug. 21, 1901), Coldwater, Mich.
1893	Tuttle, Albert H., 735 Main, Cambridge, Mass.
1898	Tuttle, George M., 49 W. 38th, New York, N. Y.
1901	*Tyler, George E. (*July 2, 1902), Denver, Colo.
1897	*Ulrich, Charles F. (*Feb. 18, 1903), Wheeling, W. Va.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1892	Vail, J. B., 322 W. Market, Lima, O.
1897	Van Benschoten, William C., 63d and Monroe Ave., Chicago, Ill.
1889	*Van Bibber, W. C. (*1892), Baltimore, Md.
1908	Vander Veer, Edgar A., 28 Eagle, Albany, N. Y.
1877	Vanderveer, John R., Monroe, N. Y.
1890	Van Duyn, John, 318 James, Syracuse, N. Y.
1888	Van Hook, Weller, 5759 Washington Ave., Chicago, Ill.
1891	Van Pelt, Charles L., 19th and Jefferson, Toledo, O.
1888	Van Santvoord, Richard, 10 W. 122d, New York, N. Y.
1879	Van Valzah, W. W., 34 W. 50th, New York, N. Y.
1891	Vaughan, Victor C., 15 S. State, Ann Arbor, Mich.
1897	Veasey, Clarence A., 1833 Chestnut, Philadelphia, Pa.
1890	*Vermyne, Jean B. (*Aug. 16, 1898), Boston, Mass.
1905	Vincent, Thomas N., 1221 N, N. W., Washington, D. C.
1882	VINTON, CHARLES D., Wernersville, Pa.
1892	Voldeng, M. Nelson, Cherokee, Ia.
1886	Von Klein, Carl H., 70 Bellevue Pl., Chicago, Ill.
1908	Wade, Arthur E., Lexington, Neb.
1878	*Wagner, Charles K. (*1898), Newark, N. J.
1888	WALDRON, MARTHA M., Hampton Institute, Hampton, Va.
1889	Walk, James W., 737 Corinthian Ave., Philadelphia, Pa.
1900	Walker, James B., 1617 Green, Philadelphia, Pa.
1888	Walker, John E., Thomaston, Me.
1895	Walker, Samuel, 100 Lincoln Park Boul., Chicago, Ill.
1889	Ward, R. Halsted, 53 Fourth, Troy, N. Y.
1897	Warden, Carl C., 133 N. Spruce, Nashville, Tenn.
1889	*Warner, Helen F. (*Oct. 30, 1905), Detroit, Mich.
1884	*Warren, Charles (*1889), Washington, D. C.
1888	Warren, Stanley P., 99 Free, Portland, Me.
1892	Warren, Wadsworth, 55 W. Fort, Detroit, Mich.
1905	Washburne, James M., 15 Bellevue Pl., Chicago, Ill.
1904	Watkins, Harris R., 15 S. Prospect, Burlington, Vt.
1907	Waugh, William F., 735 Sunnyside Ave., Chicago, Ill.
1905	Weatherson, John, 103 State, Chicago, Ill.
1883	Weaver, Joseph K., 612 DeKalb Ave., Norristown, Pa.
1906	Webber, Stephen E., Calais, Me.
1888	*Webster, Charles E. (*1892), Portland, Me.
1905	Webster, Ralph W., 100 State, Chicago, Ill.
1888	*Weed, Charles L. (*1889), Philadelphia. Pa,,
1902	Weeks, Stephen H., 681 Congress, Portland, Me.
1884	*Weidman, W. Murray (*Feb. 8, 1902), Reading, Pa.
1892	Weitz, Joseph A., Montpelier, O.

* Deceased. Names in SMALL CAPITALS life members.

Date of election.	
1897	Welch, John C., Bellevue, Pa.
1902	Welch, Stephen A., 253 Washington, Providence, R. I.
1888	Wells, George M., Wayne, Pa.
1897	Wentworth, William W., 230 W. 65th, Chicago, Ill.
1895	Wentz, Alexander C., Hanover, Pa.
1888	Weston, Edward B., 85 Dearborn, Chicago, Ill.
1905	Whalen, Charles J., 34 Washington, Chicago, Ill.
1905	Wheeler, Frank R., Auburn, Ill.
1888	Wheeler, George A., Castine, Me.
1902	Wheeler, John B., 210 Pearl, Burlington, Vt.
1898	WHEELOCK, WILLIAM E., Morristown, N. J.
1905	Wherry, James W., Dansville, N. Y.
1882	Whitbeck, J. Ward, 209 East Ave., Rochester, N. Y.
1890	Whitcomb, Charles R., 52 Florence, Roslindale, Mass.
1902	White, S. Marx, 627 Twelfth Ave., S. E., Minneapolis, Minn.
1895	White, William R., 7 Greene, Providence, R. I.
1888	*Whitney, Adaline S. (*Feb. 13, 1896), Boston, Mass.
1882	*Whittaker, James T. (*June 5, 1900), Cincinnati, O.
1899	Whittier, Francis F., Brookline, Mass
1894	Whittier, Frank N., 161 Maine, Brunswick, Me.
1877	*Wickes, Stephen (*1889), Orange, N. J.
1885	*Wight, Jarvis S. (*Nov. 16, 1901), Brooklyn, N. Y.
1903	Wilbur, Ray L., Stanford Univ., Cal.
1889	Wilcox, Dorril M., Falls Village, Conn.
1890	Wilcox, Reynold W., 679 Madison Ave., New York, N. Y.
1905	Wilkinson, William W., Box 87, Silverton, Colo.
1906	Willard, Harvey G., Iron River, Mich.
1905	Williams, Arthur E., 322 Nineteenth, Rock Island, Ill.
1888	William, A. O., Ottumwa, Ia.
1904	WILLIAMS, C. M., 48 E. 49th, New York, N. Y.
1902	Williams, Robert F., 807 N. Virginia, El Paso, Tex.
1892	Williams, T. R., Panxsutawney, Pa.
1905	Williamson, Charles Spencer, 103 State, Chicago, Ill.
1898	Williamson, Edward L., 163 W. 74th, New York, N. Y.
1898	*Willits, Mary (*Dec. 16, 1902), Norristown, Pa.
1888	*Wilson, Edwin F. (*Aug. 18, 1902), Columbus, O.
1884	*Wilson, Henry P. C. (*1897), Baltimore, Md.
1887	Wilson, James C., 1509 Walnut, Philadelphia, Pa.
1905	Wilson, William L., 5533 Madison Ave., Chicago, Ill.
1890	Wing, Edgar D., Galesburg, Ill.
1880	*Wing, Theodore T. (*1887), Susqeuhanna, Pa.
1892	*Wirt, William E. (*1906), Cleveland, O.

Names in SMALL CAPITALS life members. * Deceased.

Date of election.	
1879	Withaus, Rudolph A., 45 W. 32d, New York, N. Y.
1882	Wolff, Henry A., 501 W. 38th, New York, N. Y.
1897	WOOD, CASEY A., 72 Madison, Chicago, Ill.
1889	*Wood, Robert W. (*Jan. 1892), Jamaica Plains, Mass.
1892	*Woodbridge, Luther D. (*Nov. 1899), Williamstown, Mass.
1888	‡Woodman, Walter.
1898	Woodruff, Thomas A., 72 Madison, Chicago, Ill.
1888	Woodside, Albert, Rockland, Me.
1904	Woodward, J. H., 58 W. 40th, New York, N. Y.
1892	*Woolley, C. N. (*1896), Newberg, N. Y.
1884	Wordin, Nathaniel E., 274 Fairfield, Ave. Bridgeport, Conn.
1891	Wright, Adam H., 30 Gerrard, Toronto, Can.
1904	Wright, John W., 601 Am. Savings Bank Bldg., Columbus, O.
1893	*Wyman, Samuel E. (*——), Cambridge, Mass.
1903	Wyman, Walter W., Marine Hospital Service, Washington, D. C.
1905	Wynekoop, F. Eldridge, 1583 Monroe, Chicago, Ill.
1884	*Young, I. Gilbert (*Sep. 26, 1899), Philadelphia, Pa.
1886	Zenner, Philip, 14 Glen Building, Cincinnati, O.
1888	Ziegler, Samuel L., 1504 Walnut, Philadelphia, Pa.

No. of Fellows, 896.

* Deceased. ‡ Removed, present address not known.

FELLOWS OF THE AMERICAN ACADEMY OF MEDICINE ARRANGED ALPHABETICALLY BY STATES AND POST-OFFICES.

ALABAMA.

Tuscaloosa.

Leach, Henry.
Searcy, J. T.
Somerville, Wm. G.

ARKANSAS.

Hot Springs.

Hay, Eugene C.

CALIFORNIA.

Alhambra.

Reed Wm. Boardman.

Fresno.

Hare, Geo. Andrew.

Imperial.

Bold, Francis James.

Los Angeles.

Barlow, Walter Jarvis.
Bridge, Norman.
Cole, Geo. L.
Ellis, H. Bert.
Fulton, Dudley.
Kennedy, J. F.
Lobingier, A. Stewart.

Merced.

Castle, Curtis H.

Monrovia.

Pottenger, Francis M.

National City.

Fly, Edward M.

North Bloomfield.

Rogers, John B.

Oakland.

Adams, Frank L.

Pasadena.

Black, Stanley P.
Hoag, Ernest B.
Lockwood, Chas. D.
Mattison, Fitch C. E.
McBride, James H.
Sherry, Henry.
Stehmen, Henry, B.

Redlands.

Johnson, Anna H.

San Francisco.

Brown, Adelaide.
Cavano, Wm. M.
Cluness, Wm. Robert.
Jones, Philip Mills.
Marshall, John Sayre.
Merritt, Emma S.
Powers, George H.
Sherman, Harry M.
Southard, Wm. F.

Santa Barbara.

Knox, Samuel B. P.
Merriman, Henry P.

South Pasadena.

Avery, Ralph W.

Stanford University.

Wilbur, Ray Lyman.

COLORADO.

Colorado Springs.

Hamilton, James M.
Solenbergers, Amos R.

Denver.

Bagot, Wm. S.
Bonney, Sherman G.
Chase, John.

Denver—(Continued.)

Clough, Augustus A.
Denison, Charles.
Freeman, Leonard.
Hall, Josiah N.
Hawkins, Thomas H.
Hershey, Edgar P.
Holmes, A. Mansfield.
Inglis, John.
Jackson, Edward.
Sewall, Henry.

Fort Collins.

Kickland, Wm. Alfred.
Stuver, Emanuel.

La Junta.

Edwards, E. Gard.

Manitou.

Beck, L. H.

Monte Vista.

Chapman, Norman H.

Primero.

Ogle, Wm. M.

Pueblo.

Corwin, R. W.

Silverton.

Wilkinson, Wm. W.

Trinidad.

Hinman, Clayton J.

CONNECTICUT.

Bridgeport.

Osborn, George W.
Porter, George L.
Wordin, Nathaniel E.

Falls Village.

Wilcox, Dorvil M.

Hartford.

Simpson, Frederic T.
Steiner, Walter Ralph.

Litchfield.

Buel, John L.
MacLaren, Wm. S.

Meriden.

Smith, Edward Wier.

Middletown.

Noble, Henry Smith.

New Haven.

Blumer, George.
Smith, Henry Herbert.

Shelton.

Shelton, G. A.

Stamford.

Tiffany, Frank M.

Thomaston.

Goodwin, Ralph S.

DELAWARE.

Milford.

Marshall, Geo. Willard.

Wilmington.

Bradford, Thomas B.
Springer, Willard.

DISTRICT OF COLUMBIA.

Washington.

Acker, George N.
Johnson, Joseph Tabor.
Magruder, George L.
Motter, Murray Galt.
Vincent, Thomas N.
Wyman, Walter.

FLORIDA.

St. Petersburg.

Davis, William M.

GEORGIA.

Athens.

Newton, Edwin D.

Augusta.

Doughty, Wm. H., Jr.

Cabaniss.

Shannon, John R.

De Soto.

Cato, Frank L.

Hawaii.

Honolulu.

Emerson, N. B.

Illinois.

Auburn.

Wheeler, Frank R.

Batavia.

Carter, Charles W.

Belleville.

Scheel, A. M.

Bloomington.

Rhodes, Ora M.

Cary Station.

Johnston, Ellis A.

Champaign.

Dodds, J. Chambers.

Chicago.

Allen, Frances M.
Andrews, E. Wyllys.
Andrews, Frank T.
Bacon, Charles S.
Bauman, Frederic A.
Baxter, George E.
Belknap, Frederick W.
Bishop, Rufus W.
Brower, Daniel R.
Burdick, A. S.
Burr, Albert H.
Byford, Henry T.
Carlton, Edward P.
Carter, James M. G.
Cisna, Wm. R.
Collins, Rufus G.
Croftan, Alfred C.
Culbertson, Carey.
Curtis, Lester.
Davis, George G.
Davis, Nathan S.
Diefenderfer, Harold.
Dunavan, Louis W.
Eberhard, Noble M.
Edwards, Arthur R.
Eisendrath, Daniel N.
Favill, Henry B.
Fiske, George F.
Frank, Mortimer.
Gardiner, Edwin J.
Goldspohn, Albert.
Goodwin, Henry F.
Graham, David W.
Green, Frederick R.
Gregory, Louis L.
Hall, Alfred M.
Hall, George W.
Hall, Winfield S.
Hardie, Thomas M.
Hardon, Robert W.
Harrison, Wallace K.
Harsha, Wm. M.
Hatfield, Marcus P.
Holmes, Bayard.
Houston, James P.
Hyde, James N.
Irons, Ernest E.
Isham, George S.
Jackson, Thomas J.
Johnson, Frank S.
Jones, Walter C.
Kallenberg, Henry F.
Kelso, Curtis E.
Kerr, Ellis Kirk.
Kirtley, Howard P.
Klebs, Arnold C.
Krohn, Wm. O.
Lane, Francis A.
Leusman, Frederick A.
Lewis, Henry F.
Lewis, Thomas H.
Lieberthal, David.
McWilliams, Samuel A.
Maclay, Otis H.
Marquis, George P.
Mettler, L. H.
Miller, Joseph L.
Nelson, Daniel T.
Newman, Henry P.

Chicago—(Continued.)

Plummer, Samuel C.
Preble, Robert B.
Robinson, John A.
Rogers, Daniel Weston.
Rutherford, Clarendon.
Schiller, Heliodor.
Simmons, George H.
Slaymaker, Samuel R.
Sloan, Henry H.
Speed, Kellogg.
Stanton, Samuel C.
Van Benschoten, Wm. C.
Van Hook, Weller.
von Klein, Carl H.
Walker, Samuel.
Washburn, James M.
Waugh, Wm. F.
Weatherson, John.
Webster, Ralph.
Wentworth, Wm. W.
Weston, Edward B.
Whalen, Charles J.
Williamson, Charles S.
Wilson, W. L.
Wood, Casey A.
Woodruff, Thomas A.
Wynekoop, F. E.

Chicago Heights.

MacChesney, Wm. N.

Evanston.

Bannister, Henry M.
Hemenway, Henry B.

Galesburg.

Wing, Edgar D.

Jacksonville.

Black, Carl E.

Joliet.

Cohenour, Vincent J.

La Grange.

Secor, William L.

Lake Forest.

Haven, Alfred C.

Marion.

Shastid, Thomas H.

Mattoon.

Bell, Finis E.

Mendota.

Cook, Charles E.

Millington.

Freeman, Harry E.

Mt. Carroll.

Metcalf, Henry S.

Newman.

McNeill, H. Iles.

Ottawa.

Stout, Joseph.

Peoria.

Miller, S. M.

Riverside.

Heywood, Charles W.

Rock Island.

DeSilva, Joseph.
Williams, Arthur E.

Springfield.

Kinnear, T. J.
Krieder, George N.

Urbana.

Gulick, Clyde D.

Wilmette.

Butler, George F.

Zeigler.

Aderbold, Thomas M.

INDIANA.

Fort Wayne.

McCaskey, George W.

Indianapolis.

Garrett, John D.
Heath, Frederick C.
Leonard, Henry S.

La Porte.

Andrew, George L.

Logansport.

Hessler, Robert.

Marion.

Flynn, William.

Shelbyville.

Fleming, George W.

Terre Haute.

Jenkins, Wilbur O.

IOWA.

Alta.

Sanders, W. E.

Boone.

Myers, Edward M.

Cherokee.

Voldeng, M. Nelson.

Clear Lake.

Charlton, Max.

Clinton.

Farnsworth, Philo J.

Cresco.

Kessel, George.

Des Moines.

Hill, Gershom H.

Dubuque.

Boothby, James M.
Guthrie, J. R.
Staples, George Allen.

Grinnell.

Lewis, James R.

Hampton.

Harriman, Wilbert E.

Iowa City.

Burge, A. J.
Littig, Lawrence W.

Lake City.

Pray, G. L.

Ottumwa.

Brockman, David C.
LaForce, Wm. B.
Williams, A. O.

Shell Rock.

Smith, William H.

Sioux City.

Darey, J. Herbert.
Jepson, William.

Spirit Lake.

Schofield, Joseph R.

KANSAS.

Clay Center.

Tull, G. A.

Hamilton.

Lewis, Albert B.

Liberal.

Nichols, Roscoe T.

Salina.

Dewees, William B.

Topeka.

Esterly, Daniel E.
Mitchell, M. R.

KENTUCKY.

Danville.

Cowan, George.

Henderson.

Hanna, W. M.

Louisville.

Grant, H. Horace.
McMurtry, Louis S.

Maysville.

Pickett, Thomas E.

Russellville.

Alderson, M. E.

MAINE.

Auburn.

Oakes, Wallace K.

Augusta.

Davies, Oscar C. S.
Macdonald, John B.
Turner, Oliver W.

Bangor.

Mason, Wm. C.
Robinson, Daniel A.
Simmons, Wm. H.
Snipe, Langdon T.

Bath.

Barker, Byron F.
Packard, Charles A.
Rice, William E.

Brooklin.

Herrick, Fred S.

Brunswick.

Mitchell, Alfred.
Whittier, Frank N.

Calais.

Webber, S. E.

Castine.

Wheeler, George A.

Houlton.

Putnam, Harry L.

Kennebunk.

Bourne, George W.

Lewiston.

McCollister, Elisha A.
Phillips, G. W.

Lincoln.

Fuller, Charles.

North Whitfield.

Smith, Andrew R. G.

Portland.

Baker, Clarence A.
Boyle, Blanche C.
Bradford, Wm. H.
Brock, Henry H.
Burrage, Thomas J.
Folsom, E. B.
Gehring, Edwin W.
Gerrish, Frederick H.
Hunt, C. H.
King, Alfred.
Leighton, Charles M.
McDonough, Edward J.
Mitchell, Alfred, Jr.
Moulton, Willis B.
O'Neill, James B.
Pudor, Gustave A.
Small, Freeman E.
Smith, Charles D.
Spalding, James A.
Thayer, Addison S.
Thombs, Samuel B.
Thompson, John F.
Warren, Stanley P.
Weeks, Stephen H.

Presque Isle.

Boone, Sherman W.

Rockland.

Woodside, Albert.

Sabattus.

Sleeper, Frank E.

Saco.

Cochrane, Jasper D.
Goodale, Walter T.

South Portland.

Brown, Frank I.

Thomaston.

Walker, John E.

West Brook.

Smith, Thomas P.

Woodfords.

Files, Ernest W.
Foster, Charles W.

MARYLAND.

Baltimore.

Baer, W. S.
Cone, Sydney M.
Culbreth, David M. R.
Friedenwald, Julius.
Gilchrist, Thomas C.
Gorgas, F. J. S.
Hamburger, Louis P.
Hunner, Guy L.
Hurd, Henry M.
O'Donovan, Charles, Jr.
Penrose, Clement A.
Pleasants, J. Hall.
Taneyhill, George L.

Hagerstown.

Scott, J. McPherson.

MASSACHUSETTS.

Arlington.

Tolman, Julia.

Baldwinsville.

Robie, Walter Franklin.

Boston.

Bryant, Alice G.
Coggeshall, Frederic.
Cogswell, Charles H.
Cowles, Edward.
Culbertson, Emma B.
Dearborn, Geo. Van Ness.
Gay, George W.
Johnson, Frank M.
Leland, George A.
Littlefield, George H.
Marcy, Henry O.
Marcy, Henry O., Jr.
Martin, Francis C.
Munro, John C.
Otis, Edward O.
Porter, George W.
Reynolds, Edward.
Sabine, Jane I. Kelly.
Spalding, Fred. M.
Streeter, Edward C.

Brimfield.

Fisk, Samuel A.

Brookline.

Bruce, Harold M.
Whittier, Francis F.

Cambridge.

Clarke, Augustus
Clarke, Genevieve.
Clarke, Inez L.
Goodale, G. L.
Sargent, Dudley A.
Tuttle, Albert H.

Charlestown.

Hammond, Wm. P.

Fall River.

Buck, A. W.
Jackson, A. M.
Learned, W. T.

Leominster.

Abbott, Griffith E.

Lowell.

Irish, John C.
Lathrop, W. H.

Milbury.

Hurd, Albert G.

Monson.

Fuller, George E.

Nantucket.

Roberts, Stephen M.

New Bedford.

Bullard, J. T.
Hough, Garry de N.
Swift, Wm. N.
Tucker, Edward.

Palmer.

Flood, Everett.

Roslindale.

Whitcombe, Charles R.

Roxbury.

Thomason, A. H.

South Boston.

Morris, J. G.
Ruddick, Wm. H.

Southbridge.

Reed, Wm. G.

Springfield.

Parker, Wallace A.

Taunton.

Presbrey, Silas D.

Waltham.

Moses, Thomas F.

Westboro.

Harvey, Edwin B.

Westfield.
Atwater, James B.
Dutton, J. M.

Williamstown.
Olds, Frank W.

Winter Hill.
Cutter, Charles K.

Worcester.
Foskett, Geo. M.
Marble, John O.
Perry, Charles H.
Scribner, Ernest V.
Shaw, Thomas B.
Trowbridge, Edward H.

MICHIGAN.

Ann Arbor.
deNancrede, Charles B.
Peterson, Reuben.
Vaughan, Victor C.

Bay City.
Erwin, R. W.
Landon, Henry B.

Detroit.
Brodie, Benjamin P.
Connor, Guy L.
Connor, Leartus.
Connor, Ray.
Devendorf, C. A.
Emerson, Justin E.
Flinterman, Johann.
Hitchcock, Charles W.
Johnson, John G.
Kiefer, Guy L.
Kiefer, Herman.
McClintock, Charles T.
Marshall, Cuvier R.
Sherrill, Edwin S.
Shurly, Burt R.
Tappey, Ernest T.
Warren, Wadsworth.

Grand Rapids.
Boise, Eugene.
Hulst, Henry.

Houghton.
Overfield, Adam.

Iron Mountain.
Carpenter, W. T.

Iron River.
Willard, H. G.

Ishpeming.
Felch, Theodore A.

Jackson.
Lewis, Charles H.

Negaunee.
Sheldon, H. W.

Norway.
Brasseur, John B.
Swift, Elisha P.

MINNESOTA.

Faribault.
Rogers, Arthur C.

Fergus Falls.
Haugan, Otto M.

Hibbing.
Tower, John B.

Mankato.
Brandenburg, Frederick D.

Minneapolis.
Behrens, Bernt M.
Hunter, Charles H.
Murray, Wm. R.
Newhart, Horace.
Staples, Henry L.
White, S. Marx.

St. Cloud.
Beebe, Warren L.

St. Paul.
Ritchie, Harry P.

St. Peter.
Tomlinson, H. A.

MISSISSIPPI.

Columbus.
Sykes, Richard L.

MISSOURI.

Columbia.

Miller, Walter McN.

Kansas City.

Hoxie, George H.
Mott, John S.
Schauffler, Edward W.

St. Louis.

Alt, Adolf.
Charles, J. W.
Ewing, Arthur E.
Green, John.
Loeb, Hanan W.
Nelson, Edwin M.
Post, M. Hayward.
Shapleigh, John B.
Summa, Hugo.

MONTANA.

Phillipsburg.

Patterson, E. Blanchard.

Red Lodge.

Cuttle, Frederick.

NEBRASKA.

Lexington.

Wade, Arthur E.

Lincoln.

Angle, Edward J.
Hummel, Ray O.
Stevens, James F.

Omaha.

Findley, Palmer.
Gifford, Harold.

Pawnee City.

Brooks, Earl B.

NEW HAMPSHIRE.

Groveton.

O'Brion, Charles C.

Hanover.

Gile, J. M.
Smith, Wm. T.

NEW JERSEY.

Atlantic City.

Conaway, W. P.
Darnall, Wm. E.
Filbert, C. E.
Joy, J. Addison.
Stewart, Wm. B.

Bridgeton.

Moore, John H.
Smith, Thomas J.
Tomlinson, Joseph.

Eatontown.

Partree, Homer T.

Lakewood.

Schauffler, Wm. G.

Montclair.

Stone, Wm. G.

Morristown.

Wheelock, Wm. E.

Netcong.

Thayer, H. W.

Newark.

Stanwood, Robert G.

South Orange.

Cobb, George H.
Pulsford, Henry A.

Tenafly.

Lansing, James B. W.

Trenton.

Bruyere, John.
Elmer, Wm., Jr.

NEW MEXICO.

Alamagordo.

Holmes, J. G.
Stacey, Harley J.

NEW YORK.

Albany.

Craig, Joseph D.
Culver, Charles M.
Lanahan, Jos. A.
Tucker, Willis G.
Vander Veer, Edgar A.

Binghamton.

Beach, George W.

Brooklyn.

Brinsmade, Wm. B.
Butler, Glentworth R.
Campbell, Wm. F.
Fairbairn, Henry A.
Figueira, Mathias.
Jewett, Charles.
Lester, John C.
Mathewson, Arthur.
Paine, Arthur R.
Pilcher, Lewis S.
Price, Henry R.
Rae, Alexander.
Schenck, P. L.
Sheppard, John E.
Simmons, Warren S., Jr.
Stuart, Francis H.

Buffalo.

Benedict, A. L.
Diehl, Alfred E.
Grosvenor, J. W.
Hurd, Arthur W.
Jewett, Charles S.
Matzinger, Herman G.
Rochester, DeLancey.

Clifton Springs.

Spaulding, Frank W.
Tinker, Martin B.

Dansville.

Wherry, James W.

Geneva.

DeLaney, John P.

Ithaca.

Gould, George M.
Hitchcock, Edward, Jr.

Jamestown.

Bemus, Morris N.
Greeley, Jane L.
Morris, J. W.

Manhasset.

Niesley, Charles M.

New York.

Ayer, James C.
Bang, R. T.
Bartholow, Paul.
Bermingham, Edward J.
Bieser, Augustus E.
Biggs, Herman W.
Bishop, Louis F.
Brekes, David.
Bronson, Edward B.
Bryant, Wm. S.
Bulkley, L. Duncan.
Carhart, Wm. M. d'A.
Chrystie, Thomas M. L.
Coakley, Cornelius G.
Coan, Titus M.
Criado, Louis L.
Dana, Charles L.
Dennis, Frederic S.
Dunham, E. K.
Einhorn, Max.
Elliot, George T.
Fordyce, John A.
Fox, George H.
Gerster, Arpad G.
Haddon, Alexander.
Haven, Foster S.
Hawkes, Forbes.
Hayes, Wm. Van V.
Hubbard Wm. N.
Hutchinson, Woods.
Judson, B. A.
Kelsey, C. B.
Kinch, Charles A.
Knight, Charles H.
Knopf, S. Adolphus.
Le Boutillier, W. G.
Le Fevre, Egbert.
Lewis, Daniel.
Light, Gertrude U.
Lybolt, Archibald.
Lyons, Frederick A.
Manges, Morris.
May, Charles H.

New York—(Continued.)

Mial, Leonidas L.
Morrow, Prince A.
Needham, George G.
Newcombe, James D.
Nisbet, James D.
Rockwell, Alphonso D.
Savage, Watson L.
Sayre, Reginald H.
Schoonover, Warren.
Shrady, John.
Simmons, Charles E.
Thomas, James C.
Torek, F. J. A.
Tuttle, George M.
Van Santvoord, Richard.
Van Valzah, W. W.
Wilcox, Reynold W.
Williams, C. M.
Williamson, Edward L.
Witthaus, Rudolph A.
Wolff, Henry A.
Woodward, J. H.

Monroe.

Vanderveer, John R.

Niagara Falls.

Snyder, Thomas.

Oneida.

Miles, George W.

Peekskill.

Knight, Charles A.

Phelps.

Howe, Wm. A.

Rochester.

Dow, Frank F.
Durand, Henry S.
Rider, Wheelock.
Whitbeck, J. F. Ward.

Schenectady.

Clute, Wm. T.
Huggins, Walter L.

Syracuse.

Heffron, John L.
Totman, David M.
Van Duyn, John.

Troy.

Ward, R. H.

Westfield.

Strong, Thomas D.

White Plains.

Sell, Edward H. M.

NORTH DAKOTA.

Fargo.

Campbell, Frank J.

OHIO.

Alliance.

Tressel, John H.

Canton.

Fraunfelter, Clare E.
Marchand, Jacob F.
Post, Silas B.

Cincinnati.

Bettman, H. W.
Conner, Phineas S.
Dandridge, N. P.
Friedlander, Alfred.
Juettner, Otto.
Ravogli, Augustus.
Thrasher, A. B.
Zenner, Philip.

Circleville.

Jones, Howard.

Cleveland.

Baker, Albert R.
Bruner, Wm. E.
Crile, George W.
Fry, Royce D.
Scott, Xenophon C.
Sechrist, Cora S.
Sihler, Christian.
Tuckerman, J. E.

Columbus.
Barnhill, James U.
Brown, John E.
Cooperrider, Charles A.
Dunham, John D.
Hamilton, C. S.
Hamilton, Wm. D.
Kinsman, David N.
Lawrence, F. F.
Medbery, Josiah.
Phillips, Ellis.
Timberman, Andrew.
Wright, John W.

Grinnell.
Thomas, H. G.

Lorain.
Robinson, R.

Lima.
Vail, J. B.

Montpelier.
Weitz, Joseph A.

Oxford.
Moore, Hugh M.

Painsville.
House, Charles T.

Sandusky.
Merz, Charles H.

Springfield.
Link, Joseph A.

Toledo.
Van Pelt, Charles L.

Zanesville.
Crossland, J. C.

OKLAHOMA.

Vinita.
Taylor, James L.

OREGON.

Portland.
Kelley, Richmond.

PANAMA (CANAL ZONE).

Ancon.
Phillips, Charles E.

PENNSYLVANIA.

Aaronsburg.
Musser, Charles S.

Allegheny.
Turnbull, Thomas, Jr.

Allentown.
Grim, Henry A.
Herbst, Henry H.

Athens.
Stevens, Cyrus L.

Bangor.
Sherrer, H. Straub.

Bellevue.
Welch, John C.

Butler.
Doane, L. Leo.

Carlisle.
Diven, Samuel L.
Pilcher, James Evelyn.

Columbia.
Craig, John J.

Conshohocken.
McKenzie, Wm.

Danville.
Robbins, James E.

Dickinson.
Longsdorf, Harold H.

Du Bois.
Free, Spencer M.

Easton.
Fretz, John Edgar.
Green, Edgar M.
McIntire, Charles.
Michler, H. D.
Moore, James W.
Ott, Isaac.
Shimer, S. D.

Emporium.
Bardwell, E. O.

Gettysburg.
Stahley, George D.

Greensburg.
Kline, W. J. K.
Hanover.
Alleman, H. M.
Wentz, Alexander C.
Harrisburg.
Kunkel, George B.
Lee, Benjamin.
McAlister, John B.
Hecktown.
Beck, Richard H.
Honeybrook.
Treichler, C. Galen.
Johnstown.
Barker, Olin G. A.
Kingston.
Kunkel, Henry.
Lewisburg.
Groff, George G.
Mason and Dixon.
Miller, DeWitt C. R.
Montrose.
Halsey, Calvin C.
Narberth.
King, Wm. H.
Nazareth.
Pohl, Harvey C.
Norristown.
Eisenburg, P. Y.
Weaver, Joseph K.
Philadelphia.
Ashhurst, A. P. C.
Atkinson, Wm. B.
Baker, Geo. Fales.
Barton, James M.
Beach, Wm. M.
Beates, Henry, Jr.
Burgin, Herman.
Castle, Franklin D.
Cattell, Henry W.
Cleeman, Richard A.
Craig, Alex. R.
Curtin, Roland G.
Daland, Judson.
Davis, Gwilym G.
Deal, Lemuel J.
Dorland, W. A. N.
Dunton, Wm. R.
Ely, Thomas C.
Eshner, Augustus A.
Evans, Horace Y.
Everitt, Ella B.
Fetterolf, George.
Fisher, Frank.
Gleason, E. B.
Hammond, L. J.
Hansell, Howard F.
Harlan, George C.
Hess, Robert J.
Holland, James W.
Hollopeter, Wm. C.
Keen, Wm. W.
Kelly, A. O. J.
Kyle, D. Braden.
Kynett, Harold H.
La Place, Ernest.
Lathrop, Ruth W.
Leaman, Henry.
Leffman, Henry.
Leopold, Isaac.
Makuen, G. Hudson.
Montgomery, Edward E.
Morris, J. Cheston.
Moulton, Albert R.
Oliver, Charles A.
Penrose, Charles B.
Perkins, Francis M.
Pontius, Paul J.
Pyle, Walter L.
Risley, Samuel D.
Roberts, John B.
Roberts, Walter.
Santee, Eugene I.
Sartain, Paul J.
Schneideman, Theodore B.
Schweinitz, Geo. E. de

Philadelphia—(Continued.)
Schwenk, Peter N. K.
Shoemaker, John V.
Smock, Ledru P.
Snively, I. Newton.
Stellwagen, Thomas C.
Stout, George C.
Stubbs, George E.
Taylor, J. Madison.
Thomson, Archibald G.
Turnbull, Charles S.
Turner, Charles P.
Veasy, Clarence A.
Walk, James W.
Walker, James B.
Wilson, James C.
Ziegler, Samuel L.
Pittsburg.
Allyn, G. W.
Arbuthnot, Thomas S.
Connell, J. G.
Davis, Thomas D.
Foster, Wm. S.
Grayson, Thomas W.
Heckel, Edward B.
Langfitt, Wm. S.
Lichty, John A.
Lippincott, James A.
Mayer, Edward E.
Patterson, Stuart.
Shaw, Wm. C.
Simpson, Frank F.

Pottsville.

Carpenter, James S.
Halberstadt, Andrew H.

Punxsutawney.

Williams, T. R.

Reading.

Dundor, Adam B.
Muhlenberg, Wm. F.

Retreat.

Mayberry, Charles B.

Scranton.
Logan, Harry V.
Sewickley.
Jennings, Samuel D.
Shamokin.
Maurer, James M.
South Bethlehem.
Estes, Wm. L.
Wayne.
Egbert, Joseph C.
Wells, George M.
Waynesboro.
Hoover, Percy D.
Strickley, Abraham H.
Wernersville.
Vinton, C. D.
Wilkes-Barre.
Harvey, Olin F.
Shoemaker, Levi I.
Wyoming.
Knapp, Charles P.
York.
Meisenhelder, Edmund W.
Shearer, Niles H.

RHODE ISLAND.

New Port.
Barker, C. F.
Providence.
Capron, Franklin P.
Chapin, Charles V.
Chesebro, Edmund D.
Churchill, Donald.
Collins, George L.
Crooker, George H.
Cutts, Wm. B.
Day, Frank L.
DeWolf, Halsey.
Donley, John E., Jr.
Green, H. R.
Ham, Albert E.
Hersey, Geo. D.
Hoye, Henry J.

Providence—(Continued.)
Matthews, Geo. S.
Milan, Michael B.
Miller, A. E.
Munro, Walter Lee.
Peck, George B.
Peckham, Frank E.
Putnam, Helen C.
Rogers, Frederick T.
Stone, Ellen A.
Swartz, Gardner T.
Welch, Stephen A.
White, Wm. R.

SOUTH DAKOTA.

Aberdeen.
McNutt, H. E.

Vermillion.
Burkland, Philip R.

TENNESSEE.

Nashville.
Hale, George W.
Warden, Carl E.

TEXAS.

El Paso.
Williams, Robert F.

U. S. A.

Forwood, Wm. H. (retired).
Hoff, John Van R.
McCulloch, C. Carter.
Patzki, Julius H. (retired).
Shimer, Ira A.
Smith, Joseph R. (retired).

U. S. N.

Braisted, Wm. C.
Freeman, Geo. F.
Stitt, E. R.

UTAH.

Salt Lake City.
Ewing, W. Brown.
Plummer, Charles G.
Silver, Edward V.

VERMONT.

Barre.
Chandler, M. L.

Brattleboro.
Holton, Henry D.
Miller, Ansel I.

Burlington.
Hawley, Donly C.
Jackson, F. K.
Stone, B. H.
Watkins, Harris R.
Wheeler, John B.

Woodstock.
Kidder, F. Thomas.

VIRGINIA.

Bon Air.
Hazen, Charles M.

Charlottesville.
Davis, John S., Jr.

Hampton.
Waldron, Martha M.

Hot Springs.
Hinsdale, Guy.

Richmond.
Massie, Joseph P.

WASHINGTON.

Seattle.
Cummings, Charles E.
Griswold, Walter S.

WEST VIRGINIA.

Morgantown.
Simpson, J. N.

Wheeling.
Aschman, Gustavus A.
Reed, Robert J.

WISCONSIN.

Hudson.
Gray, Frank F.

La Crosse.
Reed, Edward N.

Madison.

Head, Louis R.
Jackson, R. H.
Sheldon, Charles S.

Milwaukee.

French, Samuel W.
Gray, Alfred W.
Harlow, George A.
Higgins, S. G.
Kellogg, E. Wells.
Puls, Arthur.
Smith, Bryant.

Wauwatosa.

Dewey, Richard.

CANADA.

Kingston.

Connell, J. C.

Montreal.

Reddy, Herbert L.

Toronto.

Reeve, Richard A.
Wright, Adam H.

BRAZIL.

Sao Paulo.

Barreto, O. de Mello.

BURMA.

Tongoo.

Corson, Elton S.

KOREA.

Fu San.

Johnson, W. O.

INDIA.

Lodiana.

Noble, Mary R.

CONSTITUTION.

ARTICLE I. TITLE.

This Association shall be known as the AMERICAN ACADEMY OF MEDICINE.

ARTICLE II. OBJECT.

The object of the Academy shall be—

1. To bring those who are alumni of classical, or scientific, and medical schools into closer relations with each other.

2. To encourage young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of medicine.

3. To extend the bounds of medical science, to elevate the profession, to relieve human suffering, and to prevent disease.

ARTICLE III. MEMBERSHIP.

SEC. 1. The membership of the Academy shall consist of fellows, associate members, and honorary members.

SEC. 2. The Fellows shall be alumni of respectable institutions of learning, having received therefrom—

(1) The baccalaureate or master's degree after a systematic course of study, preparatory and collegiate; but when a candidate has not received either of these degrees in course, other evidences of a preparatory liberal education, which shall be considered as equivalent to the same by the Council, may be accepted in lieu of a degree by the Academy.

(2) The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of preceptors and professors; or

(3) When a candidate is an alumnus of a foreign institution or institutions, not granting the baccalaureate or master's degree, or that of Doctor of Medicine, a certificate, or certificates, or a license, which shall be considered as equivalent by the council, may be accepted in lieu thereof by the Academy.

(4) The fellows shall be reputable graduates in medicine.

SEC. 3. Honorary members shall consist of members of the medical profession, at home or abroad, who shall have made important contributions to medical science or to medical education.

SEC. 4. Associate members shall be elected from among those working along sociologic, educational or other scientific lines closely related to the work of the Academy, and who have made notable constributions in their respective lines.

SEC. 5. The honorary and associate members shall not exceed respectively five for every one hundred fellows. They shall be entitled to attend the meetings of the Academy and participate in the proceedings, but shall have no right to vote nor hold office.

SEC. 6. The consent, by ballot, of two-thirds of the fellows present, shall be necessary for the election of fellows, associate and honorary members.

ARTICLE IV. OFFICERS.

The officers of the Academy shall be a president, four vice-presidents, a secretary, an assistant secretary, and a treasurer. These shall be elected by ballot from the fellows, to serve one year, or until others are elected. The president is ineligible for two successive terms.

ARTICLE V. COUNCIL.

The council shall consist of the officers of the Academy, ex-presidents, and one fellow for every twenty or fraction thereof in attendance. The latter shall be appointed annually by the president.

ARTICLE VI. MEETINGS.

The Academy shall hold one regular meeting each year.

ARTICLE VII. REVENUE.

SEC. 1. *Initiation Fee.* The initiation fee shall be five dollars, and shall be the only fee for the first year. It shall accompany the application for admission.

SEC. 2. *Dues.* A fee of three dollars shall be due at each annual meeting; the neglect to pay this fee for three years shall cause the name of the fellow so neglecting to be removed from the regular roll and to be entered upon a separate roll to be known as the list of suspended Fellows. Fellows paying this fee shall be entitled to all the publications of the Academy as issued. *Provided,* that all Fellows elected previous to or during the meeting for 1898, shall not be liable to this penalty, but shall not receive the publication-unless the dues are paid.

SEC. 3. *Commuting Dues.* If any Fellow pay the sum of twenty-five dollars at one time, he is freed from the payment of any subsequent annual dues and is entitled to receive the publications of the Academy. The money received for the payment of life dues shall be invested as the Council may direct and the interest only can be expended.

SEC. 4. *Retired Fellows.* Any Fellow who shall have arrived at the age of seventy years, or who may be permanently disabled, may be relieved of the payment of the dues of the Academy by a vote of the Council upon the written application of the Fellow so electing. This fact shall be noted on the roll and those so relieved shall be designated "Retired Fellows."

SEC. 5. *Publication.* The Council may authorize the sale of the publications of the Academy. The prices asked shall not be less than the sum asked from the Fellows through annual dues.

ARTICLE VIII. DISCIPLINE.

SEC. I. The fellows of the Academy in their relations with each other and with their fellow men agree to be governed by the principles embodied in the present code of ethics of the American Medical Association, and by the constitution and by-laws of the Academy.

SEC. II. A complaint being duly made to the council by two fellows against any fellow or honorary member for a violation of the constitution or by-laws of the Academy, the ethical principles therein recognized,or the laws of morality, shall be heard and considered by the council, notice of the same, including the time and place of hearing, being served on the accused by the secretary at least four weeks beforehand that he may present his defense; and the sentence of the council, whatever it may be in such case, shall be final.

ARTICLE IX. QUORUM.

Five fellows of the Academy shall constitute a quorum at any regularly called meeting.

ARTICLE X. CERTIFICATE.

A Latin certificate of fellowship, bearing the seal of the Academy and the signature of the officers, shall be issued to any fellow on payment of its actual cost.

ARTICLE XI. DELEGATES.

Delegates may be sent by vote of the Academy, or by the Council when the Academy is not in session to associations engaged in Sociologic, Educational, or other Scientific lines of research closely related to the work of the Academy, and delegates may be received from such associations.

ARTICLE XII. AMENDMENTS.

Every proposal to alter or amend the constitution of the Academy, shall be made in writing and entered on the minutes. If two-thirds of the fellows present at the next regular meeting vote for such alteration or amendment, it shall be adopted.

BY-LAWS.

ARTICLE I. DUTIES OF THE OFFICERS.

SEC. 1. The president shall preside at the meetings of the Academy and of the Council, preserve order, announce the admission of fellows and members, appoint all committees not otherwise ordered, fill vacancies which may occur in the Council and in committees, and name the time and place of meeting for the Council. When requested by a majority of the officers to call a special meeting of the Council, he shall direct the secretary to call such meeting, and shall indicate the special subjects to be considered. He shall deliver an address before the Academy at the close of his term of office, and perform such other duties as the constitution, by-laws, and parliamentary usages require.

SEC. II. The vice-presidents, when called upon, shall assist the president in the performance of his duties. In his absence, or at his request, one of them, in the order of seniority, shall take his place in the Academy or in the Council, and may deliver the annual address.

SEC. III. The secretary shall have charge of the records and the correspondence of the Academy. He shall receive all proposals for membership presented in due form and shall lay them before the council. He shall receive the initiation fees and give vouchers for them. He shall pay the same to the treasurer and shall take his receipt therefor. He shall enter in the register of the Academy the names of all the fellows admitted from year to year with their post-office address, place of nativity, time of birth, degrees, the institution conferring them, and the dates thereof; and in another column the time of their demise, when that shall occur. He shall enter, in another part of the register the names of the honorary members. He shall keep an accurate and legible account of the acts of the Academy and of the council, and shall preserve the same carefully and deliver them to his successor when elected. He shall edit the transactions in a manner and style agreed upon by the council. He shall give due notice in the medical journals of the meetings of the Academy. He shall notify committees of their appointment, and shall, in connection with the presiding officer, certify all acts of the Academy and of the council.

SEC. IV. It shall be the duty of the assistant secretary to assist the secretary in the meetings of the Academy as well as in the meetings of the council, and in his absence to take his place.

SEC. V. The treasurer shall collect and take charge of the funds of the Academy. He shall pay out of those only such sums as are ordered by the Academy or by the council, and shall take vouchers for the same. He shall annually present a statement of the finances of the Academy, which shall be referred to a committee of three fellows to be audited. He shall hold the funds of the Academy in trust, and shall give security for faithful performance of his duties when the receipts shall exceed $500 annually. He shall also take charge of its transactions and distribute them on the receipt of the price of the volume, and may sell them to any person. He shall deliver all funds in his possession to his successor, when elected.

ARTICLE II. DUTIES OF THE COUNCIL.

SEC. I. The council shall convene at the call of the president, and shall consider and act upon all proposals for membership presented in due form, as indicated in the by-laws, signed by at least one fellow, and countersigned by the secretary. If the council is satisfied that the qualifications of the candidate are such as are required by the constitution, it shall report the same to the Academy, with the words "Approved by the council" endorsed on the proposal. In the case of those who may not be reported, or who do not receive a vote of two-thirds of the Academy, no minute shall be kept.

SEC. II. It shall be the duty of the council to consider and recommend plans for promoting the objects of the Academy; to superintend its interests; to make arrangements for the meetings; to determine finally all questions of medical ethics arising among the fellows and members; to decide upon, and superintend all its publications; to authorize the disbursement of unappropriated funds in the treasury for the payment of current expenses, and to perform such other duties as may from time to time be committed to it by the Academy.

ARTICLE III. COMMUNICATIONS.

SEC. I. Papers on medical subjects may be read before the Academy, provided they have been deposited with the secretary of the council at least thirty days before the time of the regular meeting, and have also been approved by the council.

SEC. II. All motions or resolutions, excepting those which relate to ordinary and routine business, shall be referred to the council without debate. Unless otherwise instructed by the Academy, the council shall report the resolution back with its recommendation at the next executive session folowing the introduction of the resolution.

ARTICLE IV. TIME AND PLACE OF MEETING.

SEC. I. The Academy shall hold a regular meeting annually, the place and time to be determined upon at the previous regular meeting; but both place and time may be changed by the council for reasons that shall be specified in the announcement of the meeting.

SEC. II. The council may call special meetings of the Academy whenever, in its judgment, it is necessary; and it shall call a special meeting whenever it is requested to do so by twenty-five fellows of the Academy.

SEC. III. At any special meeting only such business can be transacted as is mentioned in the call for the meeting.

SEC. IV. The minutes of all special meetings shall be sent to the secretary of the Academy within thirty days after the meeting of the Academy for its information and, with the exception of the fellows elected, be subject to its revision or veto. The transactions of all special meetings shall be a part of the proceedings of the year designated by the previous annual meeting.

ARTICLE V. THE ORDER OF BUSINESS.

The order of business shall be fixed by the council.

ARTICLE VI. AMENDMENTS.

Every proposal to alter or amend the by-laws shall be made in writing; and if such alteration or amendment receive the unanimous consent of the fellows present, it shall be adopted; but if objections be made, the alteration or amendment shall lie over until the next regular meeting, when, if it receive the vote of two-thirds of the fellows present, it shall be adopted.

STANDING RULES.

Expense per capita for collation at the annual meeting not to exceed two dollars. Oct. 27, 1882.

The American Academy of Medicine is not responsible for the sentiments expressed in any address or paper read at its meetings. Sept. 3, 1887.

The secretary is not to send the BULLETIN regularly to any one who has not prepaid the subscription price, except such as are sent to honorary members, in exchange for periodicals, or the publications of other societies, and such complementary copies as the council may from time to time direct. June 3, 1893.

The fiscal year to begin with May. June 1, 1907.

Special committees are not authorized to incur expenses except by previous authority of council. (Council) June 1, 1908.

BULLETIN
OF THE
American Academy of Medicine.
(Specializing in Medical Sociology.)

VOL. IX. ISSUED OCTOBER, 1908. No. 5

THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

THE PLACE OF WOMEN IN THE MODERN BUSINESS WORLD AS AFFECTING HOME-LIFE, THE MARITAL RELATION, HEALTH, MORALITY AND THE FUTURE OF THE RACE.[1]

I.

AS AFFECTING HOME LIFE AND MARRIAGE.

BY ANDREW STEWART LOBINGIER, A.B., M.D., Los Angeles.

We must be governed in the discussion of this subject by the facts and the situation as we find it and not by our prejudices or preconceived notions of what we should prefer to see in an ideal state of society. There are vital reasons why women are now impelled to earn a living outside the home. The growing increase in the cost of living makes it necessary that there should be a greater number of wage earners in the home. Men are not as ready as in former years to marry and found a home of their own or to undertake to provide for female relatives not of their immediate family, and women themselves prefer to be independent and earn the money they spend. The dissolution of marriage by death or divorce leaves frequently a family of children to provide for. Formerly these were scattered among relatives. The tendency now is for the mother to undertake their bringing up, and the increasing expense of a family whose wants grow with their bodies makes it necessary to enlarge the income. Thus it may happen that not only the mother but often one or two daughters must contribute to the support of the family. It is a fact that in some cases the very existence of the home will depend upon the income which the feminine members of the family may bring to it. In any case modest homes may be made more comfortable and attractive and the cares of mere subsistence made less burdensome by the contributions which the women are able to provide. These comforts afford a higher grade of living and thinking. Not infrequently some younger member of the family owes an education to the fact that the elder sisters helped earn the money to send him to college.

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[1] A Symposium at the XXXIII Annual Meeting of the American Academy of Medicine, Chicago, June 1, 1908.

By becoming self-supporting, or by making home life more attractive through her contributions to its support, a young woman is not compelled to marry just for the sake of a home. Having learned the value of money and what it costs to obtain it, she will have a keener appreciation, should she marry, of the comforts and blessings in the new home which she is to establish.

Just how far the public employment of women interferes with their contracting marriage, or if married, from fulfilling their obligations to the home as wives and mothers, we have no reliable data to prove. If women prefer the added independence which earning the money they would spend brings to them, then their choice is a privilege and one, once they have made up their minds to it, from which they are not likely to be deflected. If, on the contrary, the necessities of life demand that they should do their part to earn the living, even though such a course is distasteful to them and distinctly against their inclinations, then women called to this unpleasant task are rather the objects of sympathy than of criticism. Most of the women wage earners with whom I have discussed this subject have expressed frank distaste for the dreary and dwarfing monotony of this daily toil and would prefer any honorable escape from it. From what one can judge of women provided with a competency and the comforts of life, it is safe to say that not one per cent. of them would elect a life of hard competitive toil for the sake of a few added dollars to that competency, in exchange for the life freer from care, with home and husband and social position; for we cannot deny that woman, being the distinguishing social factor, will naturally seek the environment where her tastes and proclivities have the amplest scope. The home is the foundation of society, and any social structure founded on any substitute for the home is insofar instable and impermanent. It is obvious therefore that women are wage earners not from choice of a life full of gross commonplaces and dull routine, with its certain loss in that sheltered exclusiveness so dear to the feminine heart, but from a feeling of necessity, that she may not be a dependent on the bounty of others.

There are certain definite views, however, entertained by women who choose employment outside the home which must be considered in this discussion. One of these is an inherent aversion to the sacrifices and self-denials of early married life and to maternity itself. No one who has practised medicine any length of time has failed to meet with many instances of this morbid view. That it deters many women from marriage, who would never confess it, is reasonable to assume. Home has little attraction for such women and should they chance to marry, the duties and obligations of domestic life are frankly shirked at every opportunity.

Another class of women finding marriage unhappy from too pinching economies or from irritating differences which lead to distinct incompatibility, find relief and a certain independence in earning their own money and spending it as they choose and without question. To such, public employment is but a stepping-stone to separation and divorce, perhaps to a drifting Bohemian life where honor and life's purposes are quickly engulfed. That this class is growing at an appalling rate, no intelligent observer of metropolitan life will attempt to deny.

To another, very worthy and honorable, class of young women marriage is a realm full of doubts and fears. They look about them and see so many who have not apparently improved their state by marrying that they lack the courage to make a personal application of the experiment. We may argue that these failures are more fancied than real and that the standards of the unmarried are unpractical and theoretic, but this class of women in their scrutinizing analysis have determined that the life of a bachelor maid is less fraught with hazard than a husband, children and four-room flat with a seventy-five dollar salary. If these young women become architects, private secretaries, librarians or teaching governesses, who shall blame them? They have chosen a perfectly honorable course of personal independence and that is their privilege.

Finally there is a greater class to whom a desirable offer of marriage never comes. They are not needed at home and they find dependence on their failing father intolerable. Even if their modest contribution to the support of the family was not necessary, they prefer to be a help rather than a burden and so as shop-girl, in the factory, the laundry or department store, this girl enters the world so filled with temptation and coarse contact, a victim to an existence, which would have shocked her quiet simple grandmother. What can be done about it? The problem is too new, too intricate and, shall we not hope, too transitory in our social evolution, to attempt now to find a solution for its evils. Much is being done by proper philanthropies to throw about the unprotected certain sheltering influences. Many of these are better than those of the homes from which some of the young women come. But the sincerest efforts are hedged about by insuperable difficulties, and their success is only a relative one.

The most that can be said of this situation is that it is now badly complicated and involved and the outgrowth of our complex civilization. In time as man goes back to the soil and the simple life, these metropolitan problems will find their own solution. We must study to exalt the home life and get our people out and away from gossipy boarding-house and apartment life into cottages with gardens and flowers; from roaring trolleys and whizzing motors to green lawns and the quiet country air; from the heated cafés with wine rooms and cheap orchestras to cool sylvan gardens with well rendered symphonies; from cheap sensational melodramas and problem plays to outdoor sports and fresh air scenes. Some day our women who are wandering far afield in search of novelty and diversion will drift back to their happier and wholesomer domain—the home, and develop it as only they can do. We must be patient in these mutations, while we are trying to be helpful in the solution of some of these singular problems. As women come more fully into their larger liberties and privileges they will be able better to distinguish for themselves and with a finer sense of proportion, where their most favorable spheres of influence lie. I have a very strong conviction that men will not solve this problem but that its solution must come from the women themselves. Woman with her subtility and keen perceptions will be the first to discover the evil tendencies and correct them. In the meantime home life and civilization which springs from it, may suffer; it is doubtless suffering now. But another quarter of a century will see in operation influences which will spring from a changed sentiment among women as to their relationship in life; and as this point of view becomes adjusted to better ideals we shall find women adjusting themselves to the changed conditions, and a nobler, securer, broader home life will be the final result; for women are by every endowment of nature and of culture the very embodiment of the home idea, and any concept of woman permanently divorced from home influences and maternal ministries is an anachronism as abhorrent as a solar system without its sun.

II.

AS AFFECTING HEALTH.

By L. Duncan Bulkley, A.M., M.D., New York.

Health without wealth is really better than wealth without health, as many a rich person will testify. In the struggle for wealth (which is really a relative affair, and with the poorer classes it may mean only moderate luxury) many delve and slave harder than is necessary, spending what they get in the vain search for happiness. This to the writer represents the condition of a considerable number of women and girls who have pressed into the modern business world. Fifty or even twenty-five years ago many were willing to live at home with others, the girls helping in family work; but now, with the incessant desire for excitement, pleasure, and dress, thousands work for the means of gratifying tastes and desires which are not laudable, and, as the writer sees in his office, often to the detriment of their health.

It is recognized, of course, that very large numbers of women and girls are obliged by untoward circumstances to care for themselves and even to support others, and they call for the sympathy and protection of the stronger sex. But it is still maintained that the desire to be independent (which is not ordinarily regarded as a grace in the female sex) urges many of them into the business world, when a little more exhibition of the qualities belonging to the gentler sex would tend to make home life sweeter and more attractive, and the saloons relatively less alluring to men.

It is true that modern excesses and general recklessness and search for pleasure, as in the theatres, dance halls, etc., has in a measure led away from old-time simplicity of living and has altered home life in the cities, where the problem of the business woman has mainly arisen. But all this should be taken into account in reckoning the effect of business work on women and girls, for, as will be seen later, it is not necessarily the work which undermines the health, but rather the trying to work hard in the day and dissipate in the evening—it is this that the strength is *dissipated* by late hours, etc.

Servant girls in various capacities are notoriously well, when they lead quiet lives, working ever so hard. But my experience, with those in my own family and others, is that when they have too many evening privileges and keep late hours they break down and get sick. The same is true of trained nurses, whose service is often very laborious and exhausting, but who have been taught to take care of the health. Teaching has long been an occupation, and often a very trying one, for women and girls, but, as far as my observation goes, the mass of them keep well, and in those whom I have seen professionally there has generally been a pretty good cause for the breakdown, other than their routine work. City missionaries are also generally a very hard-worked class of women, with their sympathies constantly taxed, but as a rule they keep well, as they are sensible as to rest and avoidance of dissipation, using the word in its mildest sense.

When we come, however, to the class of those females to whom our subject mainly refers, those employed in what is known as the business world, we strike quite a different proposition.

The vast army of shop-girls, saleswomen, cash girls, clerks, bookkeepers, stenographers, telephone girls, etc., etc., seem to form a class of human beings almost by themselves. Generally without much education or training they are suddenly thrown out into the world with weekly wages in cash far in excess of what they had ever before in their possession. Confined and working all day they perhaps quite naturally feel that it is their right to have enjoyment when their day's work is over. And, although tired enough to rest, as I know from long acquaintance with many of them in mission work and elsewhere, they are often led by thoughtless companions into dissipation, not necessarily wicked but foolish (of strength and health) and do not make up by proper rest and sufficient sleep for the wear and tear of the next day. In many cases it is a blessing in disguise if the money is all needed for the family, and if parental discipline or other causes leads to a quiet and simple life in the home, with early bed hours.

I realize that I am writing in a way which may seem extravagant to some, but pretty close observation of city life for many years, and a considerable acquaintance with the middle and poorer classes and those who work among them, convince me of the correctness of my position. In my experience in practice it is not so much actual work which injures the health, as it is the attempt to both *work* and *play* hard. I realize, of course, that *work* and *worry* is an equally bad combination.

The sexual peculiarities of females, however, form an element which should be taken into account in any attempt to understand their relations to the modern business world, as regard health. The question of rest during menstruation is an important one which cannot be ignored. Undoubtedly there is a physical and mental change before, during, and just after the period, and if the pressure of work is the same or greater at this time the general system, and often local organs, may suffer. The imperative call of duty and work equally at all times in the business world allow generally of no adequate relief to the system at the monthly sickness, and this undoubtedly has occasionally been the cause of ill health. In the good boarding-schools this matter always receives proper attention.

In concluding this brief consideration of the subject I can only say that as far as my observation goes it is not so much the *load* that kills as it is the *pace* taken. While the confinement, and often bad air and light connected with work in the modern business world, does seem to be more or less depressing to the health of quite a proportion of the women and girls employed, a far more serious element to be considered relates to matters outside of the line of regular work—namely what is often wrongly called *recreation*, which is seldom what the word really means, *re-creation*. Sleep and proper rest provides the best recreation, instead of the various forms of excitement so often wrongly sought.

The greatest field of philanthropy is in education—not as to book knowledge but in regard to true hygiene and proper mode of life. If the mass of females, now variously engaged in the various fields of modern business life, were correctly informed, and acted as wisely as many men do in the matter of conserving their vital forces, and not dissipating them in the search for pleasure, there is no reason why the work commonly required of them should greatly harm their health. There are individual exceptions to this rule or generalization as there must be to every other one.

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III.

AS AFFECTING HEALTH AND MORALS.

By Norman Bridge, M.D., Los Angeles, California.

The entry into business pursuits in this country during the last few decades, of a large number of women, has changed to some degree several of the social and economic equations. The rush of women into professional life has changed professional equations, but that does not enter into this discussion. Some women have taken the places of men in business pursuits, compelling the latter to seek other and often less convenient occupations. Some of these men have unfairly complained of the unfairness of their situation. The women have generally worked for lower wages than men did and do, in similar lines of work. This has tended to turn men out of such positions as smart women can fill. The men have thus, so far, overcrowded the occupations they have gone to, or they have had to create still other occupations wherewith to keep their hands busy. The women have been perhaps less constant as employees than men are; if they marry they usually leave their business situations, as they ought to. This accounts in part for their lower wages.

In the past few years a great deal of discussion has occurred as to the influence produced upon the women themselves and upon society at large, by such a large number of them forsaking domestic life for business pursuits. Apprehension has been felt for the health and morals of the business woman and for those of society, as influenced by her business life. Is her health impaired, and so the health of her children if she comes to have any, and does her occupation tend to undermine her own moral integrity or to harm society? We are told that these women rarely become home-makers, and mothers, and that the birth-rate of their classes of the community tends to fall below their death-rate and that therefore their families are running out and will eventually be gone.

It is true that a large proportion of business women never marry, or marry late in life, and so, for a part of their lives at least, are taken out of the home-making and childbearing class.

For the weal of the race or the particular social group, this may be a misfortune. It is easy to argue and it seems a truism, and from some points of view it is a truism, that every woman should marry and make a home. But this is in the first place manifestly impossible and in the second place it is the woman's own affair. The trend of modern civilization is toward more individualism and more personal liberty of action for all people, women and men and children alike. The time is past when the woman can be made to sink what she regards as her own personal interest for that of her race. Whether or not it is finally right or wrong, she will act mostly for her own personal interest as she understands it, if she can; and it is hard to argue against her right to do so. Her rights and prerogatives are self-evident in the light of modern standards. It may be that, averaging the sex, the woman's own best interest is identical with that of the race, but she will not always of herself see it so or be convinced of it.

A business experience for a woman does not unfit her for domestic life, but usually makes her take to it with more zest if she has a good chance. Nor does she prove a less useful housekeeper or a less wholesome mother. She probably less often is a mother and less repeatedly one, than if she marries earlier. Her business experience certainly enhances her power and efficiency as a useful social unit in the community where she lives; and this is a gain of some value for society.

It is said that women by a life of business lose the opportunity and shirk the duty of perpetuating their own families. This is all true, but society has small reason to complain. The same thing happens to married women of luxury and social indulgences; their families are running out too, and their places are being taken by lowlier families that are coming up with more numerous children—the very best material for citizenship. Thus the single business woman always, and the pampered rich married woman often, contribute to the same social result—a result that is not good for the race. And for this offense the business woman is much less to be blamed than the married woman referred to. That it is most natural for every woman to marry is true. The race interests are thus best subserved; health interests are also subserved by it, since it is a fact that those women are less sick and live longest who, well after their youth, marry, and who bear children not too often.

Business work occasionally reduces the vitality of the woman and leads to some actual disease, but this is not common unless she works for very low wages and under depressing conditions, for while she is working she is usually better satisfied than with idleness. Idleness and uselessness are to a sensible woman the most demoralizing of influences. I have known many women to take up some occupation not because they needed work, but solely to escape these conditions. Reckoning all women who work in business outside their homes, or in their homes upon non-domestic work taken in, I am sure that most of them work because they have to earn their living, or believe they do; and a numerical majority of them work for low wages, work too long hours daily, and under conditions of bad hygiene. Many of these women break down and become chronic invalids or die. The bad air, the confinement of their work, the lack of variation in muscular activity and general exercise, and the depressing moral influences, are too much for their frail powers, and they go to the wall.

One of the dangers to which unmarried women, who are not overworked, are exposed is the tendency to become eccentric, whimsical, casuistic and cranky as the years pass. So great is this tendency that some students of the subject contend that every woman should marry even if she makes a foolish marriage, so as to prevent the calamity referred to. A single woman of forty or over who has kept her poise and sense of proportion is a very superior, if a very rare person. One of the best antidotes to this warping tendency—beside matrimony—is for her to have some steady work in business, with both men and women associates.

We are told that a woman in a business situation, especially when working with men and women associates, tends to lose some of her feminine charm and innocency, and that she is likely to become bold and mannish. But boldness is a matter of temperament and native tendency; it is not largely made by working or not working. If the work tends in either direction it is toward less boldness. As to the charm and innocency, business occupation does not impair either, unless you mean by these words ignorance and uselessness. Such is the real meaning often carried by these terms.

We are told that a business life for women tends to immorality. As a general proposition it is not true. The business woman, especially in the higher classes of work, is less likely to go wrong than her idle sister. She learns the realities of life and the dangers that beset the career of women—learns them better by the very working. She can take better care of herself under temptation and danger, is more to be trusted, and she has more essential refinement, than the idle woman of the same class who always hovers within the protecting shadow of her home.

A few women on starvation wages go wrong, largely in consequence of this factor—possibly a few more than would fall if they were not so employed. Many of these are girls who, if they would wisely take domestic service instead of some grinding clerkships, could have an easy and wholly reputable life and be able to lay up money. There is a fad that is as prevalent as it is foolish, to the effect that "business" life even if at starvation wages is far better than a "work" life with less physical and mental fatigue, and more comforts and money. It is distinctly an unmoral if not an immoral tendency. This is the direction in which the greatest harm comes of women working in business pursuits; and it cannot be denied that here is a menace to the best interest of society as well as to the health and character of these workers. A foolish feeling of cast, a fashion, has developed; really, it always existed but seems lately to have become exaggerated. The girl clerk is socially above the cook or second girl, although she is half as fortunate in every other particular—in wages, physical labor, social protection, and all general comforts, except the comfort of her pride.

While this prejudice does incalculable injury to the unfortunate girls themselves, there is little ground for hope that it will disappear, so foolish are people whenever their pride—even their foolish pride—is touched. A young man will gladly begin his career by working on a farm or in a shop, covered with grime and doing the meanest sort of work. He will not lose cast or suffer in pride—indeed he may be very proud of his exploit. But ask the young woman to begin in a kitchen and she will spurn you and take a cheap clerkship at less wages than it costs to board her. And she is deaf to all arguments against her decision.

The sense of independence and self-reliance that comes of the experiences of a business life, saves for character many women who would otherwise be lost by ignorance and idleness. These, I believe, much more than outnumber the other class of those who go wrong because of the bad temptations of their work.

But there are yet other disadvantages to the women themselves as well as to society, from their business experience. Some of them who are smart and not overworked, develop a degree of independence that sometimes amounts to a misfortune. The girl who lives at home and does not pay for her board, who uses all her earnings for pin-money when her parents are quite able to give this to her, but who is too haughty to ask for it, and prefers to work and earn it herself, is sometimes one of this class. By working she perhaps escapes some domestic and social duties, and she likes the excitement and novelty of business—it is such a variation from the humdrum of home. She is developing egoism and selfishness rather than grace—and she is ignorant of this fact. The enjoyment of such freedom leads many women in the aggregate to fail to accept good opportunities for marriage and a larger career when these are offered. In business life the girl dresses well if she can afford it, spends considerable money upon herself and so her demand for finery grows; likewise, the list of eligible husbands within her reach grows less, for, to her, eligibility means good salaries or fortunes as well as personal fitness, a personal fitness of the angelic sort. Charmed by present independence and the luxuries that she can command, she rarely accumulates money (which would be good business), and she forgets that some day she may cease to earn, and so she often misses those larger and more permanent joys that she is entitled to. This is her moral loss—to say nothing of her acquisition of some self-centered selfishness in exchange for the wholesome unselfishness with which she started out.

The restraints which society places upon the activities and conduct of women is galling to many of them. Perhaps to most women these restraints are balanced by their sense of protection and their safety in their domestic life, their homes and children. They easily adjust themselves to their situation; they know that society places no such restrictions upon men, but as men earn most of the money and are stronger and useful to lean upon, these women do not complain. Moreover, the laws of many states give women large pecuniary and legal advantages based solely on sex, and on the theory that the female sex is the weaker of the two and needs protection.

But some women do complain, even rebel against their restrictions. They glory in any attitude of independence that is not perilous to their good name. They hate chaperonage and the restraints of dress, even while they try to follow the changing fashions in clothes. They hate to be always "proper." They preach woman's rights, and delight in dressing themselves as men. Some of them freely wish they were men, and occasionally one adopts man's clothes, seeks masculine employment and for months and years keeps the world in ignorance of her sex.

A business life increases this sense of rebellion in a considerable number of women, and so far its influence is positively bad; for the increase in rebellion fails to bring compensating joys to the individual—it lessens her happiness and good health, to say nothing of the reflected injury to the community. Women mostly range themselves into two cardinal and major classes: those who wish for domestic life, for home and children; and those whose tastes run toward independence and a business or professional career. Some of the first class (which is vastly the larger one) are obliged to go into business but are always ready to abandon it for a wholesome domestic life. Some of the second class accept domestic life without seeking it; being rather enticed into it they nevertheless make good homes, and they like this life better than they did the struggle of business. They are generally surprised to find vastly more happiness in their homes than they had expected. This is the case of the woman coming to her own. The change is toward more unselfishness and more pleasure of the higher sort—for the larger joys, and the most enduring, are fostered by unselfishness and close congenial fellowships, by mutualness in work and gains, in privations and sorrows.

IV.

AS TO THE FUTURE OF THE RACE.

By Otto Juettner, A.M., M.D., Cincinnati, O.

Inasmuch as the human race is an aggregation of units, it is plain that the factors which affect the evolution and peculiar development of the unit or the individual, are in the same measure active in the moulding of the aggregate. If it is true that the individual is an omnibus in which his ancestors ride, it is equally true that the race at any particular stage of its history reflects the virtues, the defects, the peculiarities of the generations which preceded it, and planted the seed out of which it grew. Since evolution is primarily, and for that matter essentially, a biologic problem, it is plain that the birth and development of man individually and in the aggregate concerns the physical being, the quality and character of the cell-life embodied in his existence and growth. That which we call the mentality or morality of the race is secondary to physical quality because it depends upon the latter and is influenced by the circumstances and the environment which surround the process of physical evolution. A physically weak race is necessarily an inferior race mentally and morally. The intellectual and ethical nature is not a something accidental or independent that is superimposed arbitrarily, but it is the product of the active elements that cause and influence the evolution of physical man. If I should venture any statement concerning the future of the human race and base my hypothetical predictions on premises which are furnished by the present status of the species, especially as far as the latter is influenced by the place of woman, I should wish to be more exact in the statement of the premises. The race is not a homogeneous mass. The Caucasians of to-day represent a phase in the evolution of their antecedents. The wild men of Borneo of to-day are also the products of an evolution. The race of the future will necessarily be a heterogeneous mass, for the reason mentioned. Let me make a concrete problem out of a hypothetical proposition and base my predictions on the effects which will follow the activity of our American women in their so-called modern station, and will eventually become apparent in the moulding of future generations.

Nature, or the sum-total of creative forces, in establishing the duality of sex gave each sex a special sphere of necessary usefulness and defined these spheres by the laws of physiology. Man or the male animal was made to possess and exercise strength. He is by nature an aggressor, a master, a protector, a creature of self-assertion. The purpose of the race, its strength physically, intellectually and ethically is embodied in the male. *He* is the race. The object of woman's existence in the aggregate is to sustain the race, and, individually considered, to sustain the unit: *man*. That which we call the female element is a supplement to the concept of animal existence as typified in the male. Human existence and evolution are, *per se*, complete in the life of the human male. Woman's reason for existence is to sustain the life of the unit and in doing so to perpetuate the aggregate in its proper specific perfection. The conclusion which is plainly contained in these premises is not a bit modern. It is as old-fashioned as our grandmothers were. The conclusion is eternally true because its foundation is the necessary nature of things. Let me sustain this statement by a few facts which our knowledge of biology in general and human physiology in particular furnishes in its support.

Maternity, which is the purpose of woman's existence, makes woman a creature of sex in the most exacting sense of the word. Her whole physical make-up and life from the time of puberty to the menopause point to the fact that she is the embodiment of the sex-idea. Nature intended her whole life, her ambition, her mode of living to be subservient to it. When she leads the life which nature has mapped out for her, she is physiologically and psychologically at her best. Nature intended every woman under these ideal physiologic conditions to sustain the race in its perfection and in its perpetuity. Nature's purpose translated into practical life makes a woman a perfect sweetheart, an ideal wife, and—a mother. I do not qualify or attempt to intensify the meaning of the word "mother" because there is no adjective that could enhance its meaning. The whole science of biology is primarily derived from the concept of motherhood and, as the carrier and exponent of this concept, woman occupies her true and her only sphere.

Nature is a relentless task-maker. Inasmuch as function is dependent upon structure and perfection of structure is maintained by perfection of function, we see structure degenerate in the absence of proper function. This is true of every organ in the body, it holds good of the whole organism and the same law—*caeteris paribus*—applies in the life of the race. We, therefore, conclude that woman must degenerate structurally and functionally in proportion to her deviation from her fixed physiologic standard. When she invades the sphere of man in the modern business or political world, she departs from the sex-idea and becomes a sexless substitute for man. She destroys the physical and psychic elements of womanhood without, however, being able to create the things that are supposed to take their place. She descends from a higher to a lower physiologic level and soon shows the evidences of biologic retrogression. When she has fallen beneath the level of specific perfection, *i. e.*, the perfection of the species as expressed in the individual, nature takes care of the problem by entering an active protest in one form or another. The place of woman in the modern business world will, in my humble opinion, have no effect on the future of our race. It is a symptom of a pathologic state which is visible in our social and economic conditions. This pathologic state will not continue indefinitely. The *vis medicatrix naturae* which is in control of the life-functions of the individual organism as well as of the whole race, will eventually assert itself. The process will terminate in an acute exacerbation and ultimate regeneration. We are approaching a social and economic upheaval. The state of unrest which has perturbed modern society in its most vital economic interests is bound to terminate by a return to normal conditions. Woman's place in the modern business world is a symptom of structural changes that are taking place within the social organism. What the upheaval will be and when it will take place, I am not in a position to say.

There is no doubt, however, that the useless, non-viable cell and unit will be destroyed and eliminated, and that the social organism will return to the lines of development that are in accord with the eternal and necessary laws of nature, as apparent in the life and life-conditions of all the mammalia. Even granting that in our morbid social and economic conditions many women have entered into active competition with man, their number is hardly large enough to justify an acceptance of her place in the modern business world. There have always been women with masculine or non-feminine instincts. They were in the nature of freaks and rather prove the rule than disprove it: Cleopatra of Egypt, Catherine of Russia, Madame de Stael, Emma Goldman and Mrs. Gunness were women that led a rather strenuous existence outside of the sphere that has been sanctified by the wives and mothers of countless generations. Women as a class will not and cannot be man's competitors in any pursuit that requires close application, mental or physical labor, creative genius or inductive reasoning. Women as a class can never be anything better than good imitators. Is it the rule to see women-physicians become great exponents of medical art and science, or to hug closely the level of mediocrity? Is there any woman that has given us one solitary new idea in the sciences or in the arts? To illustrate: the number of women who dabble in music is by far greater than the number of men who cultivate the divine art, and yet there has never been one great composer that was a woman. Being creatures of emotion and possessing a fine imitative faculty, they often become great players, singers and actresses. No woman ever knew how to wield the brush except for the less artistic and more practical purposes for which brushes are used. Some one may point to Rose Bonheur as a great creative genius. She undoubtedly was a genius who was an exception to her sex, even to the extent of despising the weakness of women in regard to dress, preferring to don trousers and at least look like a man. The invasion of man's sphere by woman will never be general enough to leave any characteristic effects behind. The eternally feminine in the individual woman is a tremendously powerful force that cannot be bridled permanently.

There is no place in the business world of to-day that could so change the woman in the female as to render her proof against the polite attentions or the attempts at conquest of the right sort of a man, or that could, even in critical moments of great anxiety or responsibility, make her forget that all-absorbing question whether her hat is on straight.

The tendency of some women to be the equals of man, to claim his rights without, however, being willing or able to assume his duties, has been more strongly marked in this country than anywhere else. It is largely the result of the attitude of men towards women in this country, a deferential and slavish submission that is erroneously called chivalry. Even at the risk of being suspected of being an unpatriotic iconoclast I call attention to one fact which is admitted on all sides except by those who are mostly concerned. The curious worship of woman in this country is a form of national hysteria that made us the laughing stock of all the rest of the world. I will cheerfully grant that our American women unite the best elements of woman's character to be found anywhere on earth, the domestic traits of the German, the horse-sense of the Englishwoman, the *chic* of the Parisienne, the cleverness of the Austrian, the fiery temperament of the women of Spain, and the physical charms of the maidens of Italy. This fact should lift the American man to a correspondingly high level of manhood. Woman is man's equal in her sphere but not in his. Equality is a distinctly relative concept.

When a woman begins to argue, it is best for man to patiently listen and when she is through, to silently pay homage to the genius of Schopenhauer who informed us many years ago that "logic was not included in the feminine mind." It is not surprising, therefore, that the (female) champions of woman's rights have never said very much though they have talked quite a great deal. They plead for better times, purer morals, cleaner politics, modern schools and what not. How many women in any community could intelligently approach the solution of any public question? There may be one or two in a hundred women who have the inductive power of the masculine mind. What about the other ninety-nine or ninety-eight who represent the great average? They would blindly follow their husbands, brothers or sweethearts, or be driven by the energetic agitator in petticoats. If they were left to themselves, the eternally feminine would arise with elementary force and triumphantly side with the political candidate who happens to have the best shape or display the latest cut in whiskers, especially if he chances to be unencumbered with a wife. Woe to the woman who would attempt to run for a public office and depend on her sisters to support her! If she is a spinster whose ideas are strenuously "up-to-date" while her hats and waists are a few seasons behind, her fate would *ipso facto* be sealed. If she is good-looking and a stunning dresser, every woman would vote against her if only to kill the votes of the men whose *locus minoris resistentiae* since the time of Mother Eve has been—woman. Every argument in favor of woman's so-called rights is necessarily either a vicious circle or a generalization from limited premises. *Exceptio probat regulam!* It is manifestly unfair to hold up a few brilliant and gifted women as representative types of the sex.

The agitator in petticoats (perhaps more aptly called the "agitatrix") pleads for equal rights. She wishes to place men and women on the same level. In reality she demands for women the rights and prerogatives of men without being willing to yield or sacrifice the rights and prerogatives of women or to assume the full duties and responsibilities of men. Therein lies the injustice and most palpable error in the argument. All rights and no duties! is the battle-cry. They demand the same wages for the female teacher who is an unencumbered bachelor-girl and for the male teacher who has a wife to support and four or five little mouths to feed. They want men's places and men's rights and at the same time they glare at the rude men who do not give up their seats in a car to them, or who do not doff their hats in an elevator. They deplore the disappearance of the chivalry and courtesy of the gentlemen of former generations, such as our grand old colonial ancestors were, but do not think of the modesty and the loveliness of the women of olden times who inspired sentiments of chivalry "when knighthood was in flower." The agitation in favor of women's "rights" is in reality a movement to dethrone her who is by nature a queen. A truly good, womanly woman is the one adorable thing in all the world. As a woman she is a living text-book of moral education for men. As a wife she dignifies and makes human and holy what man shares with the brute. As a mother she reigns supreme, for "the hand that rocks the cradle wields the destinies of generations and ages." I wish to say and make the statement with all possible emphasis that if at any time in the history of mankind men fell short of the ideals of humanity, the fault lay primarily with the women. Napoleon once remarked that the women, especially the mothers of a nation, are the makers of its history.

The real, the representative American woman does not aspire to any station except the place that nature marked out and intended for her. Where do we find the representative American woman? Does she hold court in the saloons of Newport? Do we find her in Woman's Clubs where she discusses the latest tendency in impressionistic art or the psychology of childhood while her own little brood at home (if she has any, which is usually not the case) is guarded by a French maid or is left to the tender mercies of a colored servant? Do we find her on the stump where she harangues and is vociferously cheered by a sympathizing crowd of hysterical females who like herself are women in the anatomic but in no other sense of the word? The typical American woman has instinctively found her proper sphere in her own home where she is surrounded by all the charm and glamour of wifehood and motherhood, the peer of him whose name she bears, the model of those who are her contribution to and guarantee of the future of the race. This was her place in the good old-fashioned days gone by; it is her business in the modern and rapidly evolving world of to-day. Even if maternity is denied her, let her spread sunshine wherever the gentleness of a woman's hand and the tenderness of a woman's heart are needed in this vale of lamentation. Wherever and whenever woman is to play a part in the drama of life, let her be the true and loyal helpmate, but never the competitor or antagonist of man. When paradise was lost, woman was left to man to bring paradise back to him. A true woman can never be satisfied except in the exercise of woman's own functions which are, if I may be permitted to quote the words of Louise of Prussia, to love and to be loved. Whether as a dutiful wife, a loving mother, an apostle of sunshine at the bedside, or in the school-room as a guide and example for the young—her proper sphere is in the exercise of all those traits of character which in their totality constitute the true woman. To give the thousands of shop-girls, factory-workers, etc., etc., back to the purposes of the human family is the greatest social-economic problem to-day. If this problem is not solved and nature's intentions are thwarted by social evolution along artificial by-paths, a crisis is bound to occur sooner or later. It will be in the nature of an upheaval such as have periodically occurred in the history of mankind. Whenever the integrity of the race has demanded a forcible return to natural conditions, the principle of racial self-preservation asserted itself and brought about the regeneration that was necessary or the destruction that was unavoidable. The fall of the Roman Empire and the French Revolution were crises of this kind that arose from economic and political conditions involving the most vital problems of racial existence. That we are even now approaching a crisis of some sort or another is plain to any one who compares the life of the *modern* man or woman with the life of the *normal* man or woman. Race-suicide does not only refer to the actual insufficiency of the supply to make up for the loss. It includes the process of deterioration which man under so-called modern conditions is slowly but surely undergoing. The invasion of man's sphere by woman appears like a part of this process. *Per se* it is an ephemeral phenomenon like all conditions that are at variance with the fundamental principles that determine the life and development of the species. As to the future of the race as such I have no fears. I believe in the necessary survival of the fittest and in the necessary destruction of the unfit. This principle supersedes the effects of any casual conditions or transitory states of a portion of mankind on the ultimate destiny of the whole race. The voice of one man may sway a whole century, the genius of an age may direct the thought of a hundred centuries, the necessary laws of nature last forever!

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V.

FEMALE LABOR AS A FACTOR IN SOCIAL LIFE.

By A. L. Benedict, A.M., M.D., Buffalo.

Many phases of social life depend more or less directly upon the entrance of women into active industrial competition with men. It is well to begin a study of this problem with actual statistic knowledge, which, in the present instance, is drawn from the U. S. Census of 1900.

It may be stated as a corollary that the evil of child labor is by no means so great as the proper agitation to correct such abuses as do exist has led many persons to think. A little over 10 per cent. of the total population is included in the 5-year period between the ages of ten and fourteen, inclusive, there being about 8 million children, of these ages, nearly equally divided between the two sexes. About 1 boy in 6 and about 1 girl in 16 is at work. Nearly nine-tenths of the boys and eight-tenths of the girls, who are employed, are on farms, rendering domestic service in homes, doing errands, etc. To these occupations, under proper conditions, no objection can be raised. More than half of the boys and almost 60 per cent. of the girls, who are employed, are included in the last two years of the age period mentioned. Thus, the objectionable factor of child labor is relatively small and will probably be remedied by legislation with regard to labor in textile factories, mines, quarries, etc., before the next census.

It is also a favorable feature that the unemployed male adults are few in number, averaging less than 5 per cent. for all ages between 21 and 54.

In spite of the popular impression, we are still far from being a nation that forces its women to work. Counting the female population over 10 years of age, in each group as 100 per cent., 40.7 per cent. of negroes, 21.7 per cent. of native whites born of foreign parents, 19.1 per cent. of foreign-born whites, and 13 per cent. of native whites of at least two generations residence, are employed.

To a large degree also, female labor is a temporary condition. 68 per cent. of all female workers are single. Between the ages of 16 and 20, 32.3 per cent. of all women work, mainly performing light service, especially domestic. Between the ages of 21 and 24, 30.8 per cent. work and in the age-group from 25 to 34, the proportion drops to 19.9 per cent. and thereafter, steadily decreases.

It is important to know what proportion of female labor is voluntary, what proportion performed under good conditions and what proportion involves undue hardship reacting not only on the worker but upon society at large. This knowledge is not to be obtained from statistics but it is significant that occupations which would naturally be sought by persons of good circumstances invite few women, that occupations requiring great executive or severe manual labor are mostly confined to males and that, aside from such distinctly feminine occupations as domestic service, millinery and dress-making and teaching, or purely artistic occupations, women are usually employed in occupations of a temporary nature, not interfering with subsequent marriage. About 93 per cent. of all women ultimately marry and only about 6 per cent. of married women, with living husbands, work. Thus we may conclude that, like men, most women work only because they have to, that few deliberately choose a life-long occupation to the exclusion of matrimony and that, on the whole, the conditions under which they labor, are fairly good.

It is a curious fact that none of the peculiarly feminine occupations are lacking in male workers. For instance, there are 4800 male "seamstresses" (*sic*). Conversely, there are at least a few women in every masculine occupation excepting apprentices for a few trades (but not excepting the trades themselves), soldiers, sailors and marines, firemen in the police department (but not excepting other firemen and policemen), street railroad drivers (but not excepting conductors) and linemen. While one is shocked at finding women engaged in quarry work, mining, metal industries, etc., probably most such cases are confined to barely human foreigners or explained by the woman's rendering light assistance to some relative. However, one of my own patients, a very dainty, pretty girl, left domestic service to become a moulder on account of the higher wages.

Considering that good board and five dollars a week in cash can be obtained by any fairly strong and capable woman in domestic service, and that sustenance and small wages can be had by almost any woman who is not absolutely disabled and who has any vestige of womanly qualifications, little sympathy need be felt for those who continue in unwholesome occupations at starvation wages.

Sociologically, occupations for women come under two categories: (1) those which place the woman in competition with men, tending to diminish male wages and rendering it more difficult for men to support families, while, at the same time enabling the women to consider critically, an offer of marriage. (2) Those which are, for the most part, a tiding over of the period between school life and marriage or which are especially adapted to married women or widows compelled to support themselves and their families, but which do not prevent marriage or encroach on male employment.

The general classes of occupation recognized by the census are as follows:

	Males.	Females.	Masculine.	Feminine.	Single.	Married.	Widowed.
Agriculture	9,458,194	980,025	665,791	314,234	457,483	229,438	293,104
Professions	833,362	431,174	32,811	398,363	377,025	31,954	22,195
Domestic and Personal	3,594,613	2,099,165	158,637	1,950,461	1,346,676	324,105	427,384
Trade and Transportation	4,274,659	503,574	503,374	(193,048)	430,335	34,179	39,160
Manufact. and Mechanic	5,796,950	1,315,354	720,867	594,487	1,020,369	156,248	138,737
Total....	23,957,778	5,329,292	2,081,680	32,357,545	3,631,888	775,924	920,580

Males employed given in first column, females employed in second column. The column headed masculine indicates, so far as could be judged, the number of females competing with males. The column headed feminine indicates the number of women engaged in occupations appropriate to women. For agriculture, this means the management of farms, dairies, vineyards, etc., but not ordinary hired labor, on the theory that a married woman whose husband

was disabled or a widow might properly continue to conduct the business. The detailed statistics show that more than 235,000 widows and about 50,000 married women and only about 29,000 single women are engaged in these major agricultural occupations, thus supporting the theory. Actors, artists, musicians and teachers of art and music as well as school-teachers are included in the "feminine" professional occupations. Hair-dressers, boarding- and lodging-house keepers and hotel keepers (because a small hotel is simply a boarding-house of a higher grade), hand laundresses, nurses, midwives, servants and waiters are considered in the feminine occupations of the domestic and personal service class. Dressmakers, milliners, seamstresses, makers of lace, embroidery, artificial flowers and corsets are included in the feminine occupations of the manufacturing and mechanical class. The figures in parenthesis in the feminine column for the class of trade and transportation indicates the number of stenographers, telegraph and telephone operators. The column of widowed, includes both kinds.

In referring to certain occupations, such as the ministry, medicine, veterinary surgery, dentistry, saloon-keeping, mining, hunting, etc., as masculine, the writer expressly waives the intention of so designating the women engaging in them. Many forms of clerical labor are well and economically performed by women without any necessary deleterious influence upon them or interference with subsequent matrimony. But, in general the standpoint has been assumed that female labor should be limited to such occupations as nursing, teaching, domestic service, etc., which cannot be so well performed by men and which do not, therefore, compete with male labor. This standpoint is by no means one of personal conviction. On the contrary, the writer believes that a great many men and women are unfitted for marriage, that each individual should have perfect freedom of choice and that women should not be handicapped in selecting occupations or in securing promotion, except by obvious considerations of propriety. Even in the last instances, the writer believes that every woman has the right to unsex herself if she wishes.

It will be noted that, for the entire *working* population, the ratio of males to females is about 4.5: 1 and by eliminating all competition with essentially male labor, it might be made about 7: 1. For the different industrial classes, these respective ratios are: agriculture, 10: 1 and 30: 1; professions, 2: 1, with no appreciable change possible since less than one-tenth of the working women are engaged in masculine pursuits; domestic and personal service 3.5:2 and less than 4:2; trade and transportation 8:1 and infinity: 1; manufacturing and mechanical, 4.5:1 and 10:1.

It is scarcely necessary to point out that these industrial classes do not correspond to social classes in which marriage is to be expected, largely among members of the same class.

Almost exactly half of the total female working population is under 25 years of age and about 70 per cent. under 35. The age limits of the majority of individual women in each occupation vary considerably, and about as would be expected, certain occupations being mainly those of young single women, others of elderly and largely widowed women while some of the professional occupations, especially, are almost literally life work. After the age of 35, the ratio of working males to working females is fairly constant and is about 8:1. This ratio may be taken to represent the general average of women not permanently provided for by marriage, including those who do marry but who are widowed, abandoned, or for whom the husband does not provide satisfactorily. About 92 per cent. of women ultimately marry if they live to the age of 40.

It is impossible to say to what extent female labor is the cause of this lack of support by men and to what extent it is due to choice of single life and to what extent it supplements, without especially interfering with married life and the rearing of children.

In so far as the distinctly modern tendency to female labor of higher intellectual grade is concerned, it may be said that there are only about 100,000 women of the age-group of 35–44, who are employed. Nearly 40,000 of these women are teachers, and this occupation is not a recent field for women nor one susceptible of undue increase, disproportionate to the increase of population, nor one that can be satisfactorily filled by men, nor one that, in and of itself, aside from individual proclivities, prevents marriage. Thus, it is fair to assume that the so-called modern tendency toward higher female labor, involves a total of only about 60,000 for the entire country. There are over five million women in the United States of these ages, so that only a trifle over 1 per cent. of all women can be considered as affected by this tendency. By a coincidence, nearly the same ratio exists toward the total working female population.

At the same time, even this increment to the female working population is important in view of its representing a permanent life-occupation and having arisen in only one generation.

It must be acknowledged that there is a certain degree of hypocrisy in trying to shield women from the hardships and embarrassments to which they are liable as physicians, dentists, stenographers, clerks, merchants, farmers and horticulturists and attempting to limit their vocations to baking, sweeping, washing, scrubbing, nursing (unpaid or poorly paid) and teaching music, art or the ordinary primary and secondary branches.

At the same time, it is not mere male vanity but a serious consideration of the ultimate welfare of the race that seeks to retain women in essentially domestic occupations. Moreover, discounting individual and rather exceptional successes in professional and business life and analogous failures in domestic life, and making due allowances for social grade, capability of individual husbands and wives and similar varying factors, there seems to be no question but that from a cold-blooded, selfish standpoint, matrimony is better paid and easier than any other vocation in which women engage. The economic success of marriage as a vocation for women would be still greater if, without in any way departing from the sentimental and ethical factors involved, it were generally recognized as a business, to be carefully learned and to be carried on with punctuality, intelligence and devotion, such as would be shown by an ambitious nurse, physician, bookkeeper, etc.

Turning from the permanent to the more or less temporary women workers, engaged in the so-called masculine occupations, we can divide them pretty sharply, even by individual kinds of labor, into those of young single women and those of middle aged and elderly women, largely widowed. Now while, for any individual case, we would like to see a family abundantly provided with interest-bearing investments to prevent the necessity of such labor, it is obvious that such a hope is absolutely futile as affecting any considerable part of the community. The only genuine wealth is that produced directly by human labor, and interest-bearing capital is an impossibility except as a tax imposed by the thrifty few on the many. Thus, available employment for widows, or women whose husbands are incapacitated, is a general necessity and conduces to the general welfare of society by enabling the proper rearing of children, much more than it injures society by competing with male labor.

As has been stated, nearly one-third of all women work up to the 25th year and nearly 20 per cent. up to the 34th year. About one-third of this third is engaged in domestic and personal service—more after the 25th year. Obviously, these women are mainly unmarried. There can be no question but that marriage is, to some degree, prevented or postponed and fecundity diminished, directly by the reason of employment of young women. In so far as improvident early marriages are concerned, this is rather a wholesome factor. Nor is the lessened fecundity to be deprecated, so far as it is due merely to lessened period of child-bearing unless marriage is so long delayed that purely physical changes tend to poor nutrition of the foetus and render delivery difficult and dangerous. The former opinion in favor of very early marriage has changed and, probably, the primipara between 25 and 30 years of age is much better able to bear children than the girl married before she is 20 and not significantly more liable to complications and delays of labor than the primipara between the ages of 20 and 25.

As has been seen, competition by women involves less than one man in ten. At the same time, the injection of even a small percentage of women in clerical positions certainly lowers the standard of male wages and affects, especially, the positions which would naturally be stepping-stones to higher fields of usefulness in commercial life. So, too, the considerable number of female operatives in factories not only lowers the male wage scale in these industries but involves various unfavorable hygienic and moral factors for the women and hence for society at large, especially with regard to the reproduction of the race under normal conditions.

On the other hand, wages, generally, are at a high point, so high, indeed, on the average for skilled labor, that they are necessarily fictitious; that is to say, there is not wealth enough in the country, even if equally distributed, to correspond to such a wage scale. Hence, the tendency has been to a commensurate raising of prices of staple commodities.

There is no question but that marriage is discouraged to a very large degree by the unwillingness of both men and women to establish families which they can not rear in a proper manner. But, by a proper manner, is meant a much higher standard of comfort and luxury than prevailed a few years ago, or than can be attained under present economic conditions by more than a small minority of the population. If young men and women were willing to start life as their parents did, very few would be unable to afford marriage, but they are not willing and, in general, neither are their parents that they should.

How far this ambition is dependent on female labor and how far it is independent of it or acts as an incentive to the entrance of women into gainful occupations, is a question. It seems unfair to assume that any large number of young women enter industrial life simply to have more spending money or better clothes; still more so to imagine that any considerable number of them are seriously influenced by novels and melodramas in which the heroine marries above her class. At the same time, it can not be overlooked that the entrance of women into business and professional life acts in a cycle to attract into the same life, not only women who would, under older conditions, perform menial labor but women whose mothers would not have thought of working at all except in their own homes. Moreover, while labor of a higher grade brings poorer women into less intimate contact with the wealthier class than does menial labor, the conditions are so different as to be more likely to stimulate a false ambition, and thus to prevent or delay marriage and to cause an unwillingness to beget children. It must not be forgotten that, barring a mere snobbish prejudice, or the practical consideration of a liability to imperfect domestic skill, the woman who engages in a profession or business is usually more attractive to men than one who is an idler or who engages only in household and social duties.

A very important factor in discouraging home life is the enormous and progressive increase not only in the scale of living, but in the actual price of the simplest and most indispensable articles of household and personal use. This increase has, it seems to me, been caused by the general raising of wages and shortening of hours of labor. Barring means to increase the productiveness of land and to assist human labor; we can not increase genuine wealth except by increasing the average amount of labor performed by the individual. The true unit of value is not the dollar but the average day's labor. If we debase the latter, we necessarily debase the former or, in other words, increase prices as reckoned in dollars. In the adjustment, the income of the professional and small business class and that composed of non-manual laborers, fails to be raised correspondingly.

It may even be that, by debasing the standard of male labor, an actual compensatory demand is made on female labor. At any rate, the two phenomena have occurred *pari passu*.

Far more important than the ordinary conception of the social influence of female labor, especially in the higher grades, is the diversion of female labor from domestic to commercial channels. From 1890 to 1900, there was a decided though not large decrease in the number of women engaged in domestic labor for hire. Since then, statistics are not available but the operation of the law of supply and demand is fully as accurate an index of the progress of this decrease. Counting actual wages, diminution of hours of labor and efficiency, increased cost of food and increased demands for appliances of various kinds, domestic servants, washwomen, etc., cost just about double what they did 20 years ago. The ideal home of the average professional and small business man simply can not exist under ordinary conditions, including the normal incapacitation of the housewife by child-birth and the withdrawal of her services from housework to the care of children, unless additional help can be had. It is no joke but an intensely serious matter that the impossibility of securing hired girls or even of women for days' work in the home, is driving thousands of families of more than average but still moderate income, from houses into flats and from flats into boarding-houses and hotels. The influence on the birth-rate is self-evident. So far as unmarried persons are considered, the same general conditions produce a vicious cycle. On the one hand, abundant facilities are available for the concrete comforts of home without marriage. In my city a company advertises, even on its wagons, "Let us be a mother to you for seven cents a day," meaning that it looks after such minor domestic details as darning, mending and sewing on buttons. On the other hand, prudent young men and women realize that anything like a home in the old-fashioned sense is beyond their abilities except at a sacrifice of all social habits.

Nor does this lack of domestic servants affect only potential employers; it reacts also upon the working class. We cannot blame a girl for preferring to write slow shorthand and run a type-writer or to pack cereals or make paper boxes, rather than be some other woman's servant. But the domestic work, disagreeable as it was, admirably fitted her to be a thrifty and skilful housewife and even the restriction of her liberty kept her out of many moral pitfalls. I do not by any means believe that office or factory work necessarily implies extravagance, vanity and ignorance of the domestic arts, and certainly not immorality. Yet, in the aggregate, the older employment made better wives for the humbler class of workers.

The thousand female lawyers and seven thousand women physicians in the United States are only a drop in the bucket of the population. It is the lack of domestic servants and of domestic training that is disrupting our home life.

VI.

MODERN METHODS OF EDUCATION AND THEIR EFFECTS ON THE HEALTH OF THE RACE.

By George Howard Hoxie, A.M., M.D., Dean of the Clinical Department and Professor of Internal Medicine in the School of Medicine, University of Kansas, Kansas City.

In the beginning, and that is not so very long ago, the American public school was merely supplementary to the home and the shop. It had charge of the boys and girls only during the hours when they could be spared from their other employments. Upon the school therefore devolved the responsibility for only the intellectual training, and even for that high standards were not set up.

But with the increase in wealth among our people and the opportunity for comparing our culture with that of other nations, we have put greater demands upon the school and insisted that the American public school should give as thorough and complete an education as that found among the best classes of England, Germany and France, for the American people will not compare themselves with the peasant and the proletariat of Europe, but take for their standard not the bourgoisie but the nobility. In order to enable the public school to meet their demands, parents willingly surrender the comfort and profit to be derived from the child's time and send him into the school as long as the latter is willing to care for him. In other words, for the majority of our people the responsibility of the child's training from the age of six to sixteen has been given to the authorities of our public schools.

At its coming this added opportunity and demand for education created a responsibility which our school authorities were scarcely qualified to meet. Few indeed of the members of the school boards had themselves received the training that was being demanded for the children entrusted to their care. Nor could they easily find teachers with professional training sufficient to authorize them to take entire charge of the direction of the lives and studies of the boys and girls. Naturally, therefore, the first attempt to meet the added requirements was along the lines most familiar to the teacher—by increasing the amount of intellectual training given the students. More foreign languages were taught, greater quantities of mathematics and sciences were inserted into the curriculum, and our mother tongue became an object of weird and enthusiastic study. The schools vied with each other in the length and thickness of their curricula, and the development of the mind was to be the saving of the nation.

To physicians, it was of course evident that such a one-sided and unnatural training (it could scarcely be called education) should bring disaster. To the pedagogue of that day, however, the unnaturalness was not so self-evident. The parents, of course, did not for a long time discuss the theory of the matter. They simply saw that their children were becoming unwell, nervous and freakish, and blamed the local authorities without realizing that they were attacking the pawns and not the players. So much of discussion did at last arise that the pedagogues began to study physiology and child life—studying it as enthusiastically and as naïvely as if the medical profession had not already gone over all this ground before them. The result of this study was first the cutting down of the curriculum—by "enriching" and correlating the studies, as they said—in that they introduced the elective system and omitted unimportant elements from many of the studies. The next result was the correction of the physical conditions prevailing in the school-houses—conditions which were negligible when a student spent but a few months of each year in school, but disastrous when he spent 200 days each year there. Finally, they are introducing manual training—in a somewhat blind attempt to meet the demand for a physical as well as a mental training.

This may be looked upon as the present status of affairs—an immense improvement over the conditions ten years ago. The intellectual standard in general is, at the age of eighteen, two years behind the best standard of Europe—for our young men are at 20 where the European candidate for university training is at 18. Our newer school-buildings are well adapted to their purpose and the physical conditions under which the students work are, in general, hygienically satisfactory. But the general problem of public education is still unsolved because the trinity of human nature has not yet been satisfied in the content and arrangement of the curriculum.

If the parents looked after the child's physical training—if they instructed him in the matters of cleanliness, physical exercise and hygienic eating, etc., there would be less demand for manual training and other subterfuges for the development of muscular strength and skill. But the parents hand over the responsibility for the child's body as well as mind to the school authorities—and do little or nothing toward systematic or logical physical culture.

Furthermore, little or no attention is being given by the American parent to the moral training of his children. The parent follows the *laissez-faire* doctrine and trusts to good heredity and environment for a happy outcome. Because of this lack of definite teaching, many fads and vagaries relating to the moral nature have arisen among the people—Christian Science with its selfishness; menticulture, and free thought, have been re-discovered and propagated again in the present generation. The parts of these systems that are true are inherent to all logical systems of moral culture and would, of course, be inculcated in the training of every boy and girl, if our educational system took cognizance of the moral nature of the students.

The effect therefore of the educational methods upon the home life and welfare of our people has been that of stimulating to an abnormal degree the intellectual and nervous natures especially of our women. I say to an abnormal degree, because the stimulation reached a degree far beyond that demanded by a harmonious development of the body, mind, and heart—and such a lack of symmetry is, of course, abnormal. This statement does not mean that I would advocate necessarily reducing the amount of intellectual training, because in many cases the intellectual training, if supported by adequate physical and moral development, would best fit the individual to meet the demands of her life work.

This one-sided development has fortunately not affected both sexes alike, but the female rather than the male members of American society—probably because the stern demands of life have compelled the young men of the working classes[1] to leave the schools earlier than do the young women. Whereas the boys leave school in the grammar grades or at the latest early in the high school, the girls go on and secure an advanced training.[2] This makes the girls rather better trained, bookishly, than the boys of like economic conditions. The present type of school work and the literature brought within their sphere makes such girls despise physical labor and scant incomes. They desire to be made the ornaments of homes of wealth and social leadership—and their parents support them in their aspirations. The young women as a consequence have sought to marry above their station, or if they do marry men of like social standing, render their husbands miserable in a vain attempt to provide the luxuries and pleasures demanded by their pampered nervous organisms. Their bodies are not hardened to physical labor and child-bearing—and the only recourse frequently is to avoid marriage and seek employment in stores and offices where they can dress as loudly as they desire, read plenty of cheap literature, attend the vaudevilles, and in various ways keep their nervous systems attuned to what they have been taught to believe is real life. Then again, how many of us have met the finely trained intellectual wife—who tries in every way to help the husband but whose education has been so one-sided that her body is never equal to the demands made upon it, and she remains through life a semi-invalid, although a delightful personality.

I believe that the present wave of physical culture enthusiasm is going to help this condition very much. In fact, I believe that conditions are being improved and I would like to quote here the opinion of a very keen observer, Dr. Chas. F. Wheelock, of the Department of Education of New York State.

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[1] "We enrolled in the high schools of this city last year, 1906–7, 4,164 pupils—1,641 boys and 2,482 girls. The total number that dropped out for various causes was 927—396 boys and 531 girls; " that is, upwards of 24% of the boys left school, and slightly more than 21% of the girls. Only a few of either sex left school on account of poor health."

J. M. GREENWOOD, *Superintendent of City Schools*,
Kansas City, Mo.

[2] Only 4% of the pupils that enter the primary graduate from the high school. In this estimate, however, the relation of the sexes has not been calculated. Probably less than 1% of the boys graduate from the high school.

> It is my opinion after having seen a good many high schools, in fact all the high schools in New York State, that there has been within the past ten years a very marked improvement in the physical condition of high school students—especially the girls. It was not unusual fifteen years ago to see a high school room crowded with girls noticeably undeveloped physically, with pallid faces and a general air of lassitude indicating lack of nourishment, lack of air, and a consequent lack of nerve force. The high schools that I see nowadays are filled with women decidedly taller than they were ten years ago, with ruddy faces, bright eyes, and a general appearance of health and vigor. It has been little less than a revolution. I suppose better physical conditions in the school-room and saner views regarding the propriety of outdoor exercise by girls are responsible for the revolution. Boys, while showing some improvement, have not shown so great an improvement as girls. They were in better shape to start with.

What is needed now is a recognition of the matter as a whole and a development of a logical system of education to meet the conditions now confronting the schools. Too many of our educators are busy fighting with the parents over the way in which time out of school should be spent in order to secure time for the prosecution of the pedagogic ideals—instead of trying with the aid of those parents to evolve a logical educational system that will turn out complete men and women. The standpoint of a large group of educators may be put as follows, as given me by a superintendent of a large city system:

> My observation enables me to state positively that not one pupil in ten is injured by overstudy, compared with those who are up late hours receiving company, attending parties, and going to theaters, when they should be in bed. It is not school work that hurts, but it is social dissipation that undermines the health of boys and girls. When a child is going to school, his business is to be at school, to take necessary exercise, eat plain wholesome food, and sleep from eight to ten hours out of every twenty-four, and to be a child as long as possible without trying to ape society men and women.

We grant that the parents need to be taught that the changed conditions of life make the school the first concern of the child from 6 to 18—and not the relaxation—the dump that receives only that which is left over after the parents and child have exhausted their strength in following up the needs and pleasures of outside affairs. But it is natural that parents do not fully grasp the significance of this fact, for as we pointed out above, it is only one or two generations ago that the home was chief and the school only secondary in the training of the child. We should grant the school the power of controlling the child's activities if we are to hold it responsible for the entire training of the child—and then (and this is the solution of the whole school problem) we should ask that the school authorities be men who know books well, but men too—that they are trained in physiology and psychology as well as the humanities. (To see the good effects of such a knowledge and practice, one has only to study the results on the physiques of the girls in Mt. Holyoke College of the watchfulness of the physical instructor, see appendix.)

Every popular movement has in it some teaching for the student of social economics, and I believe that we would be losing the teaching of the Christian Science and kindred movements if we did not learn from them the importance of the moral element in the training of the young. Unless the young are taught to possess their souls in patience, to love righteousness and hate iniquity, to seek to serve others rather than to be served, they can never be expected to become healthy men and women—for it is impossible for us all to be crowned as victors in the contests of life—it is impossible for many to be chosen—and if our happiness depends on what we have or what is given us, then few indeed can be happy. Hence the inculcation into the children of the truths of religion is important for the happiness of our people. And since happiness, or at least contentment, is a necessary element in health, it is important even when considered from the physician's standpoint that the moral and religious nature of the child be considered by the educational system which controls the destiny of the greater number of our people.

There is another view-point from which we should, especially in this symposium, consider the matter of the influence of educational methods upon woman, and that is upon the woman teacher. Unless the woman is endowed by nature with a body stronger than the average of her sex and unless her education has been more symmetrical than the average, she can stand only a few years of school teaching without breaking down. One might say that this breakdown could be avoided if the teachers would only take exercise outside of school hours and in that way bring up the balance of the output of energy; but any one who has taught school, or who has known intimately teachers, realizes that the average teacher has little time and strength for independent exercise or work outside of school hours. The strain is a nervous one, of course, and physical exercise in the open air would greatly benefit the teacher, but when she is too used up to do anything else than throw herself on a couch and rest, an unprejudiced observer must conclude that she must not be held responsible for not taking exercise. Perhaps it is true, as the following quotation from the letter of a city superintendent indicates, that there is little difference between man and woman in this regard; still one must feel that something is wrong with a work that exhausts so completely the nervous energy. In evaluating the following opinion, one must remember that while women teachers may be spoken of as quite average, the majority of young men who take up teaching are not fair samples of the sex because they are under the average physically (or at least overdeveloped nervously)—for teaching is regarded by all except a very few men as a very undesirable life-work, to be taken up only in extremity or as a makeshift. But the quotation is as follows:

> I should say the average length of service of teachers in our schools is ten years. As to the effect of school teaching on the health and physique of the ordinary young woman in contrast with that of the health of the young man, will say I see but little difference, and it to a great extent depends upon the individual. In either case, it is necessary to take considerable outdoor exercise, and many of the teachers neglect this and are therefore unfitted for their daily work.

It may be inherent to the training of the young that the instructors be exhausted before their time, but I cannot help believing that when a logical system shall have been established, the teacher will be found to be as strong and vigorous as the members of other professions and trades.

Another point should be considered in this connection, and that is the effect of nervous teachers upon the health of the pupils. This phase of the subject has received considerable attention in Germany, with the result that physicians and others interested in the school children have requested that more men and fewer women be employed as teachers in order that this tendency to hysteria be reduced to the minimum. Others look at the matter from a slightly different angle and state that the primary grades should be supplied with quiet and womanly women as teachers, while the upper grades should have the more virile and balanced influence of men as teachers. Furthermore, while its presence is now largely a matter of accident, the refinement (or lack of it) of the teacher has great influence upon the health and character of the pupils—for the quietness, the self-control, the repose that go with refinement are potent influences in the development of children and should be a *sine-qua-non* in a teacher.

A recent writer has stated that the reasons why we do not have better and stronger teachers are, that first, the teachers are not permitted to display their own originality and initiative in teaching, and therefore become disgusted with the deadly monotony of the system; and second, that they do not receive a living wage. This latter is probably the most potent reason why we have so many unsatisfactory teachers. Let me quote from the report of a special committee of the National Education Association that investigated this subject in 1905:

> In 463 cities and towns of 8,000 population or over, New York, Chicago, Philadelphia, and Boston being excluded, the average salary for elementary teachers is $556 for women and $653 for men. But even these low figures show only a part of the truth. In 14 of these cities the average salary of women teachers in elementary schools was less than $350; "in 64 cities it was $350 or over, but less than $450; in 125 cities, or 26.4 per cent., it was $450 or over, but less than $500; in 61 cities it was $500 or over, but less than $600; in 19 cities it was $600 or over, but less than $650; and in only 42 cities, or 8.9 per cent., was the average salary as much as $650."
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> Taking up the minimum salaries paid to women teachers in elementary schools, the committee found that "in 64 cities some of the teachers received less than $300 a year; in 116 cities, $300 or over, but less than $350; in 125 cities $350 or over, but less than $400; in 89 cities $400 or over, but less than $450; in 38 cities, $450 or over, but less than $500; in 26 cities, $500 or over, but less than $600; and in 18 cities, $600 or over. . . . . In 62.1 per

cent. of the cities the minimum salary paid was less than $400, and in 12.1 per cent. was it as high as $500." But the very low salaries were not characteristic of the smaller towns and cities only. "On the contrary, of the 39 cities with a population of 100,000 or over, 21 cities reported teachers in elementary schools in receipt of yearly salaries of $400 or less."

"The workman at common labor who has steady employment earns more in a year than many of the teachers in elementary schools. Thus a comparison of the weekly wages of municipal laborers on street and sewer work and the minimum yearly salaries of teachers in elementary schools, in 47 cities, shows that except in 4 cities the laborer who has work for 50 weeks, say, earns more than the teacher. In many cases, the laborer's pay under such conditions is greatly in excess of that of the teacher." The absurdity of the situation becomes more apparent when we remember, as the report shows, that this comparison is with the commonest unskilled laborer for which absolutely no preparation is requied, "while in scarcely any city of importance can a man or woman obtain a position as teacher at even the minimum salary without some previous experience at a lower salary, or some special preparation." The committee might have added that in some cities, and the number is increasing, both special preparation and some previous experiences are required. "In a majority of cities," the report continues, "the minimum salary—that for regular teachers in their first year—is far below a fair living standard, and therefore too low to attract to the profession the best material—the prime essential for a strong teaching force."

This puts a very serious question squarely before the American people. With such salaries the wonder is that the quality of teaching is as good as it is. Housemaids receive more than $200 a year in addition to room and board, and the union rate of wages for hod-carriers in New York State is $3.00 a day, or $900 for the year. It is edifying to talk of the pleasure derived from helping children to develop, but teachers like other people, must live, and the joys of altruism do not furnish clothes, food, or summer recreation to rebuild energy. One of the conditions of good teaching is opportunity for the teacher's continued mental growth, and this involves the expense of books, and lectures, and leisure for rest and travel.[1]

And we might add that since teachers do not have a living wage they cannot have the vacations and recreations necessary for the complete restoration of nervous energy used up by their school-room activities.

Furthermore, we do not have teachers enough to meet the needs of a more healthful education. Such a desirable method would be more individualistic than our present system and would try to render symmetrical each individual presented to the school—that is, the school should educate him in the true sense of the word. This means doubling the number of our teachers—a tremendous expense no doubt, but a necessary expense, whether considered from the economic or from the hygienic standpoint, for the economists still maintain without contradiction that on the success of the public school rests the future of the democracy. We must have schools good enough for the best and wealthiest and still adapted to, and utilized by, the worst and poorest, if we are to be preserved from classes, castes and aristocracy with its concomitant degradation and pauperism.

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[1] Quoted in "Mind in the Making," by E. F. Swift.

APPENDIX.

The following report of the results of physical training at Mt. Holyoke College bears out the theses of the foregoing paper. In the first place it shows how large a percentage of the girls who go to college (and they are those who have had the best advantages) are in a weakened physical condition by the end of their course at the preparatory school—a condition that would be avoided if the schools were under the charge of competent medical directors. Secondly, it shows what wonders systematic and competent physical direction may accomplish.

Report of Resident Physician, Mount Holyoke College.

Record of Class of 1908.

(Finished May 9, 1908.)

College entrance. Physical condition.	Number.	Close of college year.
1. Good	123	89 same condition. 29 better—stronger, more endurance. 5 worse—more nervous, less endurance. (Two of the five who seem in worse condition live very carelessly, eat irregularly, and pay almost no attention to ordinary laws of health.)
2. Fair	5	3 same condition—sleep well. 2 better—poor sleepers.
3. Poor	2	1 same—sleeps well. 1 better—sleeps poorly. (Both had histories of recent nervous breakdowns in high school.)

College entrance. Physical condition.	Number.	Close of college year.
4. Menstrual disorders:		
(a) Total incapacity for work for 1–2 days	14	8 same as entrance. 6 worse than at entrance.
(b) Partial incapacity for work, try to give up for part of a day	26	18 same as at entrance. 6 better than at entrance. 2 worse than at entrance.
(c) Partial incapacity for one day	12	12 no incapacity.
5. Sleep. 130 examined		100 always have been good sleepers. 20 usually sleep well, but easily disturbed. 10 sleep poorly much of time. (Average amount of sleep is 8 hours.)
6. Indigestion and constipation	46	30 general improvement. 8 no trouble now. 8 more tendency.
Of these 46 cases:		1 was rated as in poor condition at entrance. 3 were rated as in fair condition at entrance. 42 were rated as in good condition at entrance.

Data tabulated from 1000 first measurements.

	Highest.	Mean.	Lowest.
Age	31 years	19 years	16 years
Weight	200.0 lbs.	117.0 lbs.	80.0 lbs.
Height—Standing	178.0 cen.	159.7 cen.	139.0 cen.
Trunk	64.2 cen.	56.2 cen.	43.6 cen.
Girth—Ninth rib contracted	93.0 cen.	70.5 cen.	58.0 cen.
Ninth rib full inop	98.0 cen.	75.4 cen.	61.0 cen.
Strength—Back	113.0 kilos	62.0 kilos	21.0 kilos.
Legs	140.0 "	69.4 "	19.0 "
Forearm R	46.0 "	29.5 "	13.0 "
Forearm B	42.0 "	26.4 "	10.0 "
Capacity of lungs	252.0 cu. in.	165.0 cu. in.	82.0 cu. in.

Data tabulated from 350 second measurements of same students.

	Highest.	Mean.	Lowest.
Weight	167.0 lbs.	121.9 lbs.	89.0 lbs.
Height—Standing	180.0 cen.	161.2 cen.	150.0 cen.
Trunk	64.5 cen.	57.3 cen.	53.0 cen.
Girth—Ninth rib contracted	85.0 cen.	68.6 cen.	56.0 cen.
Ninth rib full	90.0 cen.	77.0 cen.	63.0 cen.
Strength—Back	150.0 kilos	75.6 kilos	34.0 kilos
Legs	180.0 "	83.9 "	37.0 "
Forearm R.	49.0 "	32.8 "	18.0 "
Forearm L.	50.0 "	29.5 "	16.0 "
Capacity of lungs	254.0 cu. in.	180.5 cu. in.	128.0 cu. in.

Gain of "Mean Proportional."

Weight	4.9 lbs.
Height—Standing	1.5 cen.
Trunk	1.1 cen.
Expansion	3.5 cen.
Strength—Back	13.6 kilos
Legs	14.5 "
R. Forearm	3.3 "
L. Forearm	3.1 "
Capacity of lungs	15.5 cu. in.

REPORT OF DIRECTOR OF PHYSICAL TRAINING, MOUNT HOLYOKE COLLEGE.

HEALTH STATISTICS FOR CLASS 1911 (FRESHMEN).

Data from physical examination at time of entrance.

Number of students examined	207

General health.

Good	164
Poor	11
Fair	32

Bilateral asymmetry.

Postural cases	45
Structural cases	1

Neurasthenia.

St. Vitus dance	3
Nervous prostration	6
Minor nervous disorders	45

Habitual headache and backache.

Number of cases	33

Digestive disorders.

Constipation	35
Bilious attacks	8
Indigestion	12
Recurring appendicitis	5
(Three of these have had operations for removal of appendix during the present year.)	
Cases of weak heart	2
" " scrofula	3
" " hernia	1

DISCUSSION.

In the unavoidable absence of the gentleman announced on the program to open the discussion, the president called upon Dr. Helen C. Putnam.

Dr. Helen C. Putnam, Providence:

Every human being, man or woman, has a right and duty to develop his best abilities for the service of society. I do not see how making women better educated than men, keeping them more moral, cultivating in them more temperate habits then in man can solve the whole problem. We must train exactly these same qualities in men in order that these good women may have good husbands. There are a number of public-spirited women whom we are very thankful for in these days. The education of women, faulty as it may have been, is having something to do with encouraging the movement for "Sanitary and Moral Prophylaxis" which so fundamentally concerns the prestige of nations. Wiser education will make women more discriminating in marriage, and wiser discrimination in choosing the fathers of the nation's children is one of our best hopes for the future.

I am sure it is because women have been educated and have had experience in business life that we are beginning to see that the making of homes is no longer a matter of intuition, but that our modern conditions demand study of "domestic science" *i. e.*, the practical application of elementary biology, chemistry, physiology in the home. Salaries offered teachers in domestic science are so small that the best women cannot be secured, and the present limited suffrage is not such that the best women are always selected to develop the science and art of home-making to the best standards among young people. The influence of women must be extended beyond the realm of education into that of suffrage—I shall have to say the word. Woman's vote is needed in the selection of the right kind of women to be teachers and the right kind of men to keep a city moral and sanitary.

I wish that physicians present would feel inclined to encourage in the public schools of their own communities the teaching of home-making by scientifically trained women. Her superior personality and metal capacities developed through scientific study can influence the children outside of the technical details of scientific home-making and create a wiser spirit and ambition among young people. Besides the teaching of home-making there should be established a department of hygiene where a scientifically trained director shall attend to all aspects of hygiene in the school. These are practical steps which can be immediately undertaken to aid in solving this question of women in the business world or in home life.

Dr. Emma B. Culbertson, Boston:

I must confess that in the series of titles in the Symposium I feel very much reminded of the old fable of the mice who had a conference upon how to protect themselves from the cat, and I am afraid you have not yet succeeded in belling the cat. I see that there is a tendency among the speakers to consider as something to be deplored anything that is new in the evolution of the female sex; but, considering the fallibility of the male sex, it is as well to preserve a certain amount of impartial observation and broad viewpoints in regard to this subject. The question of the influence of women *per se* on the future of the race is not to be decided by anything but a coöperation of both sexes from the impartial standpoint. We should do what is *right* for man, woman, boy, or girl, as an individual human being, entitled to the best development of ability in whichever way that may be shown to end.

As for race degeneracy, it is true that we do see a certain amount of it in America. That, however, is not most marked among the women. Our girls are great, healthy, buxom young women, and the boys, too many of them, poor, stunted fellows. We shall have plenty of boys and girls of the best type if we give them the right fathers.

In regard to the nervousness of women school-teachers, I am constantly fighting this trouble among teachers and pupils. I find that a great deal of the overwork of the women teachers is unnecessary, absolutely unnecessary, and that it is imposed upon them by the head masters. How can women teachers be expected to teach properly; how can they be anything but nervous when they are obliged to take the time for work which should be theirs for rest? We have to reorganize our whole normal school system. We must have more rational teaching, more careful selection of material for our normal schools. We must not have promotion in the hands of the politicians. Back of that again—woman suffrage.

In regard to the decline of chivalry among the men, what do we expect when we have an alien population poured in upon us? Twenty-five years ago when I entered a street car, a gentleman gave me his seat; to-day when I enter the street car, the young girls get up.

As I said before, I believe the question under discussion is one that can be solved only by the best men and women working together in a spirit of harmony and coöperation and on an impartial basis.

Dr. Edward Jackson, Denver:

I think our discussion will be a little more directly to the point if we consider the changed conditions regarding woman's work of the past, that prevail at present. We are discussing what is largely an economic question, and economic questions change enormously within a very few generations. Some of us can appreciate in a measure, from what we remember to have heard from our grandparents, the difference of conditions, between the homes of our ancestors and the homes of the present day. While much the same work is done for the men, women and children in this generation, as for that which has gone before, it is done by an entirely different general plan. The making of many things in the home such as food, clothing, articles of domestic use, has almost entirely passed away. The care of the children is now largely in the hands of those who manage the schools. Do not these changes, that have actually occurred, render it necessary that there shall be changes in the occupations of the sexes? Isn't the woman of the home of to-day as much interested in the cleanliness of her neighbors' yards, and as anxious that her children shall be under proper sanitary conditions during the hours they are at school, as was the mother of a few generations ago, whose time was largely taken up with the care of the sanitary conditions of her immediate family? Bearing in mind the changes that have already occurred, I cannot logically arrive at any conclusion except that of the last two speakers, that woman suffrage is a necessary means of allowing women to go on doing women's work, and of altering or controlling social conditions. I think with a clear conception of the changes that have gone on for a hundred years, and of the altered relation between the home and the business world that now exist, we will have better standards of judgment with regard to these questions.

Dr. John H. Tressel, Alliance:

I should like to ask Dr. Juettner if he is married. As he said he is not, I am sorry for him.

From my experience in connection with schools I find that the present sanitation has developed the girls more than the boys. This is not because the girls have better opportunities but because they are less inclined to dissipation. The boys will dissipate and in that way injure their health. I think the boys deserve just as much sympathy as the girls and we should give them a little more care. I have been acting on the school board for some time and know something about schools management. The girls are making headway but we should look to the boys a little more.

Dr. Donly C. Hawley, Burlington, Vt.:

The papers to which we have listened are exceedingly interesting, and together with the discussion brought out are especially gratifying to me since it was my privilege to prepare and arrange the program. Many of the views presented in the different papers are of vital importance and much good will surely be accomplished if we are able to carry them away with us and promulgate them in our individual communities.

Regarding the relation of woman to the business world I feel that we should keep in mind the indisputable fact that the true function of woman always has been and always will be that of wife and mother. The trend of our work and study should be in the line of fitting her for the fulfilment of that function. I think there is much to be said upon both sides regarding the position of woman in business because of the great changes that have come about in the economic world. Many times when it may seem desirable for woman to enter into competition with men in the business walks of life, it may not be actually from necessity but I judge as a matter of expediency or perhaps of pride. It is the way by which young women see they can accomplish certain ends or bring about certain results which, however, are not really the ideals they should set for themselves. I believe that it is our duty as doctors, teachers, school commissioners, etc. to bring and keep the proper ideals before their minds.

While the conditions of modern life have opened to woman a broader field and given her wider opportunities for development, while they have made her man's all-round competitor, I am of the firm conviction that the ideal to be sought after is the proper differentiation of the sexes—the man seeking for attainment along the lines which naturally belong to him and the woman along those which are hers by nature.

Dr. Bulkley referred to the health of the young woman in business, and of girls in school. I believe that our school system should be so regulated that every girl may lose two or three or four days a month without detriment to herself so far as her class standing is concerned. Our school systems should be so flexible as to permit this. While this may not be possible in business vocations still I believe that something should and may be done to make it possible for women to remain at home a few days during the menstrual period without losing their positions or without losing caste with their employer.

Prof. Henry B. Ward, Lincoln, Neb.:

This question appears to a teacher at a rather different angle than to the general public. It is easy to see the lines of thought that have been followed out and yet I take the liberty of saying that there are certain conclusions which have been drawn that are not germane to the subject. Such changes for example as have been made in the sturdy New England stock through the introduction of an enormous element of foreign population, do not show the degeneracy of the American race or of any part of it. They simply emphasizc the difference between the good old stock and the mixture which includes often the scum of Europe.

I have been largely in contact with professional people of all kinds and I do not hesitate to say that in the law or in medicine the persons on whom you can rely to stand absolutely for the highest standards in professional work without variation or compromise are the women; and, that the persons you can count on to aid some indirect underhand political move to debase the professions are the men. We must recognize that the position which women have held in the professions has always been a high one, while there are men in the profession who have stood on the same platform and have worked for the same ends, that cannot be said of all the men in the profession. But look at the other extreme. If you would walk down the streets of any of our cities at certain hours you will see them thronged with underpaid, low-grade, "professional" women as they are sometimes called. You will notice that their attire is far beyond the relative income of the individual and that on the whole these women do not possess the characteristics of courtesy, modesty and refinement which we appreciate in our sisters, wives, and mothers. They belong to a different class of society. Then if you will look at the ancestry of that class, you will find that very largely they are of foreign origin. I do not mean to cast the slightest slur upon the many honest and upright women who are striving in spite of hardships to earn their daily bread, but there are women in these occupations who have sprung from the different sort of homes and who have different ideas. These are the ones who at present are having an unfortunate effect upon the position and influence of women in the business world. That percentage is unfortunately large, but it is something that it is not due to our American civilization. It has come in spite of it. If it falls to any one it falls to the lot of woman to educate these women.

There is no question but that the physical education of college women is steadily advancing, and I am sure that college women are to be the leaders in woman's work in the next generation as college men have been and are to-day the leaders in the work of men. It rests then with college women to solve the question, but I have confidence that they will solve it and solve it rightly.

Dr. L. Connor, Detroit, Mich.:

Almost in the present generation the first girl and but few boys obtained what is called "Higher education." Only those were educated who were expected to enter one of the learned professions. Later, men and women have been educated who do not become professional people. They engage in all sorts of trades. What is the place of men in the business world as affecting home life, as affecting marital relations, as affecting health and morality and the future of the race? Somebody has suggested that they were not always in the right place any more than the girls. I think we may safely say that they have gone on very much together. In what way has the pursuit of business modified the starting point in life? By ambition in one case and vanity in another and starvation in a third. In the earlier days our bodies were exercised on the farm and we went to school only a little. This outdoor life made great strong men and women who mastered the rugged conditions of pioneer life. Now we have taken the old idea and applied it to the

new and it does not fit. The boy of to-day who is born in the city ought to have the heritage of the boy born on the farm. We should devise some way by which every city child can have a chance for a normal physical development as the floor upon which a human life must stand.

Dr. Henry C. Marcy, Boston:

A large percentage of the boys and girls born in the cities, come short of what we are entitled to give them. An industrial education will go far to correct this evil.

Our modern civilization is the glorious effulgence of the centuries. We are richer, better fed, better clothed, better housed, better educated, better trained for the responsibilities of citizenship to-day than the world has ever seen. One million of dollars goes into the treasury of the great country of which we are a part every hour of every day and every night of the whole three hundred and sixty-five days. This gives some idea of the productive power of this country.

There are many sides of the question that are interesting. All join with me, I am sure, in the feeling that as Americans, we are more proud of our people to-day, than at any previous period of the history of the world.

OBSERVATIONS IN PASSING.

KEEP IT IN MIND.

It is the year for the political cauldron to seethe, and the fires will be urged with a forced draught by the time this article reaches its readers. It is well for physicians to keep in mind the efforts of years to secure a more efficient organization of the health agencies of the general government. The platforms of the various parties express a design to bring this about, and that some action will be taken soon seems to be evident.

Hence the necessity of keeping it in mind—some action may not be the wisest action. There is more danger of faulty legislation through ignorance than of bad legislation because of selfish interests. The duty of the physician at the present stage of this question is to enlighten. Treat the subject academically, let it appear to be a discussion apart from personal or professional benefit, and let it *be* what it *appears*. Congressmen need to be wisely informed upon the subject. They can be informed without direct intercourse. Should a score of business men be led to see clearly what a gain there would be to the country in the proper organization of the various independent agencies at Washington, and how the rounding out of the scheme would add yet more to the effectiveness of the work, the chances are that it would be brought to the attention of the congressman far more effectively than were he addressed formally on the subject.

It is the duty of the members of the profession to inform themselves in order to speak of it among their acquaintance, not once or casually, but often and with a purpose; to make a hobby of it. Then collectively the subject should be discussed in society meetings, and popular meetings should be arranged to keep the subject before the people. Much of the character of the health legislation in the next Congress will depend upon the physician keeping it in mind.

* * *

TENDENCIES IN MEDICAL EDUCATION.

The rôle of a prophet is hazardous. If the would-be seer essays to depart from the commonplace, he is sure to be flayed if not guillotined by those who, as he thinks, through prejudice or lack of foresight, do not have his views. He must leave his justification to the coming race and among its numbers only the antiquarian will know he lived and thought.

Why then should one prophesy? To the ruler of to-day—the financial leader, the lord of Wall Street—such divertisement is time-wasting and unprofitable. Yet even he has made his pile by calculating three moves ahead in the game instead of only one, the measure of the ordinary mortal. In truth every one assays the task of the prophet but to down opposition joins in the clamor against the man who proclaims another gospel than his own.

This is then the real value of prophesy—to arouse criticism and perhaps through argument, often heated, to try out the gold in new ideas. The residue which has stood the test, small though it often be, is the permanent possession of the race. By such slow accretion the wealth of knowledge is built up.

What is the most remarkable, the most fundamental factor in the changes of the last decade or so in medical education? I write it down with some assurance as the elimination of individual profit and individual control. Proprietary medical education is ceasing to exist, even more surely than patent medicines, though the crusade against the latter is led by men and journals that do mold public opinion and the movement against the former is only an unknown undercurrent. Half a century back every medical school was a private corporation; even those few which in name were affiliated with great universities paid dividends to their stock-holders—truly an absurd and anomalous condition in education. Americans are fond of fair play so the public virtually said let there be as many schools as the doctors will that all may share alike in this profit; and schools multiplied. But to be profitable, schooling must be inexpensive, and cheap schools turn out a poorly trained product as contact with other nations promptly showed even the men themselves.

Conditions have changed and every year sees a reduction in the number of medical schools. There may yet be some which are declaring dividends, but they are few and better still are generally condemned. Proper medical training is known to be expensive and to give it schools are looking for endowment. They have given up proprietary control to become integral parts of great universities, they have found in many cases money for laboratories, apparatus, and research, and they have demonstrated their ability to employ wisely such trust funds. It is of peculiar interest to the Academy to note that this advance has been gained through association with institutions primarily organized and endowed for academic instruction. No great medical school can continue to exist apart from a college and the college atmosphere and ideals make proprietary schools and methods impossible. There can be no profit and hence no cash dividends; the college faculty is an oligarchy which comes very near being a true aristocracy. Individual views are seldom in complete control and sectarianism does not thrive. The results of the change are worth examining in detail later, but now let us record only the evident general effect.

The American Medical School is fast assuming a true academic character. W.

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STANDARDS OF MEDICAL EDUCATION.

One of the strongest arguments for a greater uniformity in medical educational requirements is that there may thus be provided a just and reasonable basis for interstate reciprocity in medical licensure; and one of the most hopeful signs of progress in this direction is to be found in the greater stress which is being laid upon the preliminary training which shall enable the prospective medical student to profit by his technical training. That medical schools have not always been honest in the administration of their published curricula, and that students coming to them from high schools and colleges have not been properly and adequately trained, either for the study or the responsibilities of their chosen calling, has been the source of frequent complaint. Of particular interest in this connection are two papers coming from opposite sides of our broad country.

In an address before the Oregon State Medical Association (*Northwest Medicine*, Vol. VI, No. 8, 297–300), Dr. A. C.

Panton, President of the Board of Medical Examiners of the State, says:

"Too often we find our high ideals have not been lived up to, and the so-called 'doctor,' who forsooth has a diploma, signed by a long list of professors, is only a poor illiterate individual whose untrained mind is incapable of comprehending the everyday literature of our profession; and it is painfully evident that the medical college has not done its duty, and the professors have been too facile with their signatures. . . . If our medical colleges would not accept as students those who fall far below their professed requirements as to preliminary education, and would give a simple, decent professional course, I could see no ground for criticism."

Quoting from the announcement of the Medical Department of the University of Oregon for 1900–1901, "The Requirements of the Association of American Medical Colleges," Dr. Panton continues: "These if lived up to would cover the ground. . . . Schools throughout the country make similar announcements from year to year, but it is a demonstrated fact that, notwithstanding this, some of them accept as students men and women who are almost entirely illiterate, with hardly the rudiments of English, and not a glimmer of Latin."

A very striking commentary, on the fallacy of appointing as members of State examining boards, members of college faculties, a fallacy clearly demonstrated also in California, is this bit of Dr. Panton's personal experience: "Up to the time that I became a member of the Oregon State Board of Medical Examiners, no graduate of an Oregon medical school had ever been refused a license by the board, all being simply endorsed and turned loose upon the people, although those with diplomas from outside colleges were often rejected. There had never been any controversy about these outsiders, many of whom, like some others, were unspeakably bad; and when they failed to qualify there was no protest; but when an Oregon graduate failed it was otherwise, and raptures of indignation were usual."

There is much wisdom in the writer's concluding remarks: "Reforms have been made by the Medical Department of the

University of Oregon, and if these and others, such as disincorporating as a stock concern and getting a State endowment for teaching, be carried out, it should have a legitimate future. Some of the professors at the Salem school have said to me that their school should not exist, and it would seem to me that, holding such an opinion, they should resign and thereby cease to endorse it, and perhaps bring about the accomplishment of their expressed desires."

Full corroboration of the position here taken is to be found in the presidential address, delivered at the same meeting by Dr. R. C. Coffey:

"Statistics have been gathered which show that our country has 48 per cent. of all the [medical] schools in the world, and is practically the only place where a proprietary school may exist. This is due to the fact that we have not required standards of education which were thorough and, therefore, expensive enough, for it has been proven without doubt, that it is impossible to have a well graded medical education for the amount of money that the average student can pay. Consequently, in order to give proper medical education, it is necessary to have large endowments, or State aid.

"Concerning the medical examining boards, the time was when the State examining board of Oregon included a member of the faculty of each of the schools. The examination was held by the State board immediately after school closed. I am told that the graduates of the local schools during this régime had the remarkable record of never having one of their pupils fail to pass the examination. . . . Since the representation of the schools has been removed from the board of examiners, I believe it may be said that Oregon requires as strict a standard as any State."

That the medical schools cannot be held responsible for the illiteracy of would-be matriculants it is of course obvious, but it is equally obvious that they assume this responsibility the moment they allow such to enrol as actual students. The shocking degree and extent of this ill-preparedness, on the part of American students seeking a technical education, is nowhere so clearly, nor so fairly shown as in a recent paper by Col. Charles W. Larned, professor at the West Point Military Academy (*North American Review*, September, 1908). After calling attention to the fact that West Point students come from all parts of the country and have a widely diversified preliminary training, thus striking a fair average for the whole country, Col. Larned gives some statistics which, as he says, may well give our educators good cause to sit up and pay attention. The following paragraphs are abstracted from the *Literary Digest* (Sept. 19, 1908):

Out of 314 applicants examined, 265, or 84 per cent., failed in one or more subjects; 209, or 66 per cent., failed in two or more subjects; while 26, or 8 per cent., failed in everything, the minimum allowance in any subject being 66.

154 failed in algebra, 44 per cent.; 237 in geometry, 67 per cent.; 129 in grammar, 37 per cent.; 144 in composition and literature, 40 per cent.; 73 in geography, 21 per cent.; 54 in history, 15 per cent. 295, or 90 per cent., were educated in the public schools, with an average attendance of nine years and eleven months, the average attendance in high schools being three years and three months, and that in grammar schools six years and eight months. 103 had private schooling either wholly or in part; 135 were in college for a year or more, while 189 had studied the classics. Of 135 who attended college for a year or more 82 failed to enter the Academy. 82 were rejected on physical examination, while 18 were placed on probation, thus showing 100 physically defective, or nearly 30 per cent.

With regard to distribution by states, Illinois had 83 per cent. failures, Massachusetts 72 per cent., Ohio 71 per cent., Kansas 66 per cent., Pennsylvania 64 per cent., New Jersey 62 per cent., Nebraska 60 per cent., New York 54 per cent., Iowa and Minnesota each 50 per cent., Tennessee 20 per cent.

The results indicate a weakness in our methods of instruction which must result in "a vast waste of time on the part of a great portion of the student body." . . .

" 30 per cent. of physical deficiency in our youth is a condition of our civilization which may well give concern, more especially in view of the increasing tendency of population to urban centers. What are we going to do about it? Does education have anything to do with it; and, if so, what does an educational system amount to that shows this percentage of deficiency in its output?"

One lesson, which our medical educators may well take to heart, is that neither a high school nor a college diploma, *per se*, is in a large percentage of cases worth the imitation parchment upon which it is inscribed; nor does any mere number of hours, published in the curriculum, guarantee the profitable use thereof by the student. To the cry of the colleges that "You can lead a horse to the trough, but you can't make him drink," it may be replied "Then do not label such a horse as well fed and well groomed." A false label is a violation of the Pure Food and Drugs Act. M.

* * *

The dawnings of medicine came from the East, and when she suffered in the superstitions prevalent in the Dark Ages, she fled to seek a sanctuary in the same direction. Is it any wonder that the spirit of the oriental still pervades the conduct of physicians?

The most marked characteristic of the Oriental to western eyes is his strict observance of the methods of his ancestors. His father and father's father back to the time when Boaz' young men plowed the fields in which the Moabite maiden gleaned, use the same form of implement that had been used. His fathers used it, why shall the sons change?

An article in *Northwest Medicine* for August speaking of the meeting of the Oregon State Medical Society, says:

> After the program, which you have before you, was planned as you see it and was approved by the Program Committee and councilors, one of the strongest and most progressive members of our profession raised an objection to the one-half day public session, under the auspices of the State Medical Association. The question was asked as to when this association had ever held a public session and had ever invited bankers and lawyers to address a medical society on matters pertaining to public health. The matter was somewhat heatedly discussed, the majority favoring continuing the program as planned. Finally it was compromised by turning the matter over to the State Board of

Health, until the state association should discuss the advisability of inviting the public to certain of our sessions.

Note, please, the objection was not on the merits of the question primarily, but on there being no precedent. And thus, in even as new a country as the great Northwest, the old Oriental spirit is manifested.

⁂

A circular of a State Board of Health on quarantine, isolation, and disinfection has drifted into the view of the *Observator*, bearing date of July 12, 1908. It says:

> *Absolute quarantine* includes first, absolute prohibition of entrance to or exit from the building or conveyance except by officers or attendants authorized by the health authorities, and the placing of guards, if necessary, to enforce this prohibition; second, the placing of a warning placard stating the name of the disease, in a conspicuous place or places on the outside of the building or conveyance; third, the prohibition of the passing out of any object or material from the quarantined house or conveyance; fourth, provision for conveying the necessaries of life under careful restrictions to those in quarantine.

In like manner:

> *Absolute isolation* includes first, the confinement of the patient and attendants to one apartment or suite of apartments, to which none but authorized officers or attendants shall have admission; second, the prohibition of passing out of the sick room of any object or material, until the same has been thoroughly disinfected; third, protection of the air of the house by hanging a sheet, kept constantly moist with a disinfectant solution, over the doorway of the patient's room or rooms and reaching from the top to the floor.

Modified quarantine, modified isolation, disinfection, etc., are described with a similar careful wording. On another page are given "instructions for the management of cases of communicable disease and contacts," in tabular form.

The *Observator* was curious to see which diseases were to be absolutely quarantined and have absolute isolation. Here is the list: bubonic plague, cholera, leprosy, small-pox, typhus fever and yellow fever. The *Observator* fails to see, if yellow fever is to be so treated, why malarial fever not only does not receive the same care, but is not even mentioned among the diseases to be cared for. The Census Bureau's Mortality Statistics for 1906 gives the annual average death-rate from 1901 to 1905 in the

Registration Area, to be for malarial fever, 1,568, and for yellow fever but 92. The same authority gives the number of deaths from malarial fever in 1906 in the state whose board of health issued the instructions under discussion at 41, while in all probability, there has not been a death from yellow fever in the last fifty years. Why should the victim of a sting from an infected stegomya be subjected to the rigor of absolute quarantine and isolation, while the recipient of the attention of the more common and, in the aggregate, more fatal anopheles be permitted to go scot-free? Again, notwithstanding the emanations from the patient are so deadly that a sheet constantly wet with a disinfectant solution must screen at the air passing in or out the room to the rest of the house, there are no indications for after disinfection, but contacts must be kept in quarantine for thirty days.

One feels almost like taking up the prayer of Dives to Father Abraham and ask that Walter Reed and his coadjutor martyrs be sent back to earth to tell the people, and incidentally, health authorities that there is no danger in personal contact and in the fomites of yellow fever. Alas! the answer would be the same: If they do not learn from Col. Gorgas and the Canal Zone; if Havana and its history does not convince, neither would they heed were one to rise from the dead.

The worst feature of it all is that physicians of the newer type have been telling the people the wonderful story of the transmission of disease by insect bites, and they know the teachings of modern science. And while they know this, they do not know enough to be just in judgment. "*Falsum on uno, falsum in omni.*" if the board is archaic in its opinions on yellow fever, it can not be up to date upon other subjects and much excellent work may be hampered by a lack of coöperation of the more intelligent in the state.

* * *

It is pleasant to announce that there are prospects for strengthening this "Observation in Passing." Events are crowding by in serried ranks at a quickened pace. They need not only to be pointed out, but an interpreter. Dean Henry Baldwin Ward, of the Medical

Department of the University of Nebraska, a corresponding member of the Academy, will hereafter interpret the trend of affairs in the work of medical education. His articles will be signed "W." In like manner Dr. Murray Galt Motter, of Washington, the secretary of the National Confederation of Medical Licensing and Examining Boards, will interpret the signs of medical progress in the events connected with examining boards. His articles will be signed "M." Others will take their places in the observatory from time to time that every view point may be occupied.

* * *

The Committee of Arrangements has secured the Hotel Dennis for headquarters for the meeting at Atlantic City next June. This is where we were so pleasantly entertained in 1907.

* * *

Fellows of the Academy are requested to add the name of Dr. Jane Addams to the list of Associate members in the last Handbook. Absence from home delayed her letter of acceptance, until after the August Bulletin was printed.

* * *

Those who are interested in State examination for licensure, are requested to make the following corrections in the report: Report of the Rhode Island Board on page 255 of the last number.

The report should read for:

Miami......................	passed 1	failed 0	total 1
Non-graduates..............	" 1	" 1	" 2

* * *

The National Association for the study and education of exceptional children has arranged a summer course of instruction for teachers of such children. The course is now holding at the Grozmann School, Watchung Crest, Plainfield, N. J. It is to be hoped that it may be so successful as to encourage the association to repeat the course another summer. If in the industrial world the strivings are to make the most out of everything, and, if the trend in medicine is to expend for prevention to save the greater expenditure in care or cure, surely it is sound policy to make the most of the exceptionals.

* * *

Dr. Ernest B. Hoag, in an article on "Medical Supervision of Schools and Colleges," sums up the character of the work in the following:

> In a word medical work in the schools must form part of the general educational system; it should be under the control of the Boards of Education; it must aid the boy and girl in healthy growth and development; it must help the school to adapt its work to individual physical conditions; it must aid in the correction of existing physical defects and in the prevention of others; it should superintend the teaching of physiology and hygiene and the work of the teachers of physical training. Until the school physician is regarded as something more than an "Inspector" of more or less unrelated diseased conditions no great good will be accomplished. But when, as is already the case in some cities, and among them New York, Los Angeles and Pasadena, the medical work in the schools is co-related with the entire school system, and receives the hearty support of superintendent, principals, and teachers, then we may hope for and expect results which in the end will give the pupils a square deal while in school, a better preparation for life's work when through school, and which will place the parents of the future generation in a position to more intelligently aid their children in growth, development, and character formation.

* * *

In the "Point of View" in October (1908), "*Scribner's*" is to be found an article on "Culture and Cram." It asks:

> Why is it that the common educated Englishman, not professedly a "literary man," so uniformly acquits himself better of a literary task than the corresponding American, can report better what he has seen and done, be it a voyage to strange lands, be it an account of "empire building"? There is unfortunately, no question about the fact.

Then follows a discussion on the probable education of the two, and the article concludes:

> What can you do with a "literary man" who has to have it explained to him that culture *ad hoc* is not culture at all, but only "cram"?
>
> One has to own that these modern instances are typical. And the patriot has to inquire with some trepidation, What are we going to do about

it? It is not for want of express inculcation that the American college-graduate knows less of English literature than the English "every school-boy." He has abundant "courses" in it. Whereas, the English school-boy, as certain English educational reformers are busily pointing out, has no express teaching of English literature at all. Given a regular "grind" in classics, the English system assumes that the needed knowledge of English literature, and even the needed capacity of writing English, will "rub off," and come of itself, and it has been said that, upon the whole, the English system is justified of its children and the American system is not; that, in fact, "something is rotten in the state" of American literary education.

And is it not true that from kindergarten to fourth-year medical, there is a tendency to gloss over many things, rather than grind out the fundamentals? It is said that a certain music-teacher kept a promising pupil singing the scales for a period of years, finally dismissing him with "Now you can sing anything." Our prevailing habit is to teach "tunes." The greatest improvement in our entire educational system in America, would be brought about by substituting *multum* for *multa*.

ACADEMY PERSONALS.

Hurd, Henry M., of Baltimore, has been appointed a member of the State Lunacy Commission of Maryland.

Link, Joseph A., of Springfield, O., is in Europe for the purpose of study He is paying attention to Surgery.

Thomas, H. G., has removed to Victor, Colorado, from Greenville, O.

NECROLOGY.

July 23. Horace Y. Evans, Philadelphia.
May 28. John C. Irish, Lowell, Mass.

AFTER CONSULTING HOURS.

PRACTISING IN PIKE.

BY THOMAS HALL SHASTID, A.M., M.D., LL.B.

XVI.

THE LAST EXPERIMENT.

For a full fortnight there had been but little sickness; and, therefore, my father had spent the most of his time in his office, working on one of his experiments. Day after day we could hear him in the little room, grinding and pounding and pouring, and pouring and pounding and grinding, occasionally clinking together his graduates. Sometimes we heard him turn the pages of a book. Now and then he would exclain "Pshaw!" or "Good enough!" He appeared only at meal-times, and then seemed preoccupied. Sometimes his lamp burned until midnight.

Once he was up all night; and, next day, we saw him at breakfast for a moment only. At dinner-time, in response to my mother's anxious inquiry at the office-door, he said, "Wait until supper; I'm on the right track." In the middle of the afternoon, I went to the office, and, opening the door, looked in. He was standing at his desk, bent to a square over his microscope. As he neither saw me nor heard me, I clinked the latch loudly. But still he did not hear me. I shuffled on the floor with my bare feet, and coughed; but still he did not hear me. I went inside, closing the door.

Presently he slightly raised his face from the microscope; then, by slow degrees and with great apparent difficulty, unbent his back. His eyes seemed stiff with watching; he winked hard twice or thrice. I spoke to him.

He wheeled quickly round, and, from his sleepy eyes, I read a story of triumph. With preternatural calmness, though, he said, merely:

"I've got it. The experiment's successful. At least it appears to be so. Come here, Tommy."

I went to the desk. From a wild confusion of boxes, bottles, graduates, placques, pestles, mortars, scales, etc., he lifted a tiny half-ounce phial of clear, bright, reddish liquid.

"That's it. Taste it."

Lifting the bottle to my lips, I gingerly tasted the medicine. It was truly delicious.

"What's in it?"

"Quinine. Ten grains to the ounce."

"Quinine!" I exclaimed. "Why, surely not!"

"Oh yes!" he cried, greatly pleased at my astonishment; "it's all there—quinine—ten grains to the ounce."

"I'll tell mother!" I shouted—but he held me back.

"Be still!" he cried, "not yet!"

"In the first place, the experiment is, as I say, not altogether complete—though it does appear to be so; and, in the next place, I—well—I want to tell her myself. *She's* had something to do with this. —Now you go and sit by the window."

Going to the window, I sat by it for a long time, looking out at everything in sight: at the beds of petunias and larkspurs, at the cherry trees in snowy and fragrant blossom, at the sagging old white board fence, at the silent length of dusty street, at the distant mill rumbling and rumbling—over all, the blue sky, filled with the changing clouds of early summer.

By and bye I looked again within the room: at the glazed door opening on the street; at the red-and-white checked matting on the floor; at the picture of Hodgen; at my father's diploma—Hodgen's name among the signers; at the shelves of bottles, the big bottles on the lower shelves and the little ones ranging higher; at the old familiar skeleton, suspended by a ring in the top of his skull and grinning pleasantly; at the cases of books, and of books behind books, and of books behind books behind books. At the last, I looked at my father again. He was once more standing over his microscope, bent to a square and perfectly motionless.

Looking up, he said:

"When I get this just the way I want it, I'm going to tell your mother myself. You see, I've been working on it for a good many years; and she's been helping me all the while. I'm going into the dining-room about supper-time, and ask quietly for something to eat—just as if nothing had happened. And then when she sets the things on the table, I'm going to take this little bottle out of my pocket, and say I feel so badly I think I'll take a dose of quinine. She'll see how red and pretty the mixture is, and ask me if that's some of my 'discovery.' And I'll just quietly say 'Yes,'—nothing more. And then your mother—I know her—she'll pick the bottle up, and take a taste of the medicine. And then I'll say, just as quietly as you please, 'You see, mother, at last the experiment is successful.' And I'll be perfectly calm."

His face, as he spoke, was full of repressed excitement. He laughed, nervously.

"Now be still again a minute," said he, "while I go a little further."

He went on for a time, weighing out various chemicals, and mixing and stirring and washing and triturating; and then weighing again, and again mixing and stirring and triturating and washing. Presently, he tucked down the flame of a spirit-lamp that stood beneath a retort, and said:

"Did I ever tell you how I came to study medicine?"

"No," said I, "you never did."

"Well, it was like this. One day, when I was about eighteen years old, I happened to be sick; and your grandfather brought down to the house a copy of old DeJ——'s blue-backed almanac, and handed it to me to read:—to us, in those days, a blue-backed almanac was almost a medical library. I didn't care much about the thing at first—just turned it over and over with my hot fingers; but, after awhile, I got to looking at it—somewhat listlessly; and then, at last, my eyes happening to fall on that remarkable picture of the gentleman who exhibits at once both his abdominal viscera and the signs of the zodiac—somehow—I can't explain it, but—somehow, I felt suddenly an intense desire to study medicine. Yes, I felt suddenly an intense desire to study medicine—just from that. I'm sorry it began in such an unreasonable way; I'd rather have been started—well, in *some* better way. But I wasn't. I was set going merely by that old blue-backed almanac about a patent medicine.—Well, now, be quiet again."

I was quiet. The mill rumbled; the clouds sailed.

"Aha!" he exclaimed, "*this* is the moment—*this* is the moment that repays a man for years of toil and disappointment. Say, we'll all go to Italy! I'll never patent the thing, but I believe it'll somehow help us so we can all go to Italy. Goodness, how I should like to go to Italy! I never see a boot, or even anything in the shape of a boot, but I think of Italy. I saw a cloud the other day shaped like Italy—that is, like a boot. And then, too, you can go to college where you like. And think of the millions and millions of sick children who will never more be obliged to swallow a single nauseous draught. Bless their little hearts!—Now be a good boy, and look out at the window again for awhile."

I looked out for awhile; and, when I looked again within, I saw my father sitting feebly in a chair. He seemed all fallen together. I spoke to him, but he scarcely answered me.

Steps sounded on the walk. My father rose. The square-bent form of Andrew Timberlake entered.

"D-d-doc, kin ye pull a tooth?"

"Yes," my father answered. Then he whispered to me hoarsely: "Stuff went back on me—bitter when it stood awhile."

Andrew sat down, and I held his head firmly against my breast to give the proper resistance for the tooth-pulling.

When the tooth was out, Andrew remarked, with all seriousness, "D-d-doctor, I'm g-g-goin' to k-k-keep this here t-t-tongue o' mine out o' the p-p-place where the t-t-tooth was, an' then I'll g-g-get a t-t-tooth o' p-p-perfect gold."

"Perhaps," said my father.

While Mr. Timberlake still washed the blood out of his mouth, my father stood around, balancing his spectacles in his fingers and making a pitiful attempt to look jaunty.

In a tremulous voice he remarked: "Mr. Timberlake really expects a tooth of 'perfect' gold."

"Yes," said I, with the unthinking jocularity of boyhood; "and perhaps he might just as well expect some kind of tooth to take the bitter out of his medicine."

Then, suddenly, I could have torn my tongue out. My father exclaimed, "I—tried—so—"

His face flew all aquiver. Indeed it fairly twisted and writhed, as though he were in the most intense physical pain.

He turned his back upon me, and went and stood by the door.

After a moment, though, he came back laughing, and saying, "You see the reason why the golden tooth is never actually seen is due to the pressure of the sarcophagus magoozalum on the lateral bicephalus of the trigonum nonsensicum. Isn't that so, Mr. Timberlake?"—

—But, suddenly a great whirl and splatter in the street, and a man in a mud-splashed buggy drove to the hitching-post. Out he leaped, and, without tying the horse, rushed into the office.—It was MR. VANDERMOOLEN.

"Oh Doc!" he cried. "Come quick."

My father attempted a bit of stiffness. "Have you seen another doctor?"

"Doc! quick!"

My father's face was full of joy. "Have you seen another doctor?"

"Another doctor!" cried Mr. Vandermoolen. "I tell you there *is* no other doctor. There never was, and there never will be. Come doc! Davy's dying."

My father's hat was on his head.

His pill-bags were in his hand.

The two were in the buggy.

The buggy was gone.

In the evening, I met my father at the door of the office.

"Is Davy very sick?" I asked.

"He *was* very sick," replied my father; "but," with a smile, "he is better."

"Are the *rest* all right?" I asked, grinning.

"Yes, the rest are all right," returning the grin with a wink. "In fact, for some years—it would seem—the Vandermoolens have had no very serious sickness."

WORTH REPEATING.

THE RECOIL OF PROFESSIONALISM.

BY M. CHISHOLM, M.D., Halifax, N. S.

And what of the remedy! In the words of the master: "Come ye aside and rest awhile." But they rested hanging on his lips. Their rest was a change, not inaction. A chapter in history, a poem from Tennyson, an essay from Macaulay is a rest after a hard day's work. A fishing or hunting excursion, a visit to your friend in the country, to your neighbors across the border, to your fellow citizens over the continent, to your parents across the ocean after a year's work is at once recuperative, educative and broadening. While I have this advice to give to those in the profession, I have another to pass along to those about to enter it. Lay the foundations broadly and deeply. Pass into medicine, not from the school, as too many of us have done, but from the college or university. Emerging from there you will at least have arrived at the threshold of that temple whose foundations are commensurate with the universe, and whose dome is iridescent with light eternal.

But here I see a vision which stuns and appals me. I see hosts of college graduates so intent on the study of one small pillar in this boundless temple that they fail to see or recognize the worship of the master mind who planned and created the laws by which this temple is governed. These are myopics. Now myopia is either congenital or acquired. Our modern civilization tends to myopia. Four years of cribbing, within the narrow walls of our universities accentuates this tendency to myopia. The finite is so emphasized—so closely viewed and examined, that it shuts out the infinite. Surely, then, the course should be widened, and the range of vision extended; students should be led out to the ocean, the veld, or prairie, so that by training they can extend their horizon, and learn to admire in the dim distance the beauty and harmony of the Mountains of God.

Mar. Med. News, July, 1908.

REGULAR IRREGULARS.

Physicians who are members of reputable medical societies are not all angels by a long shot. Most of us know those who are openly and notoriously bad because they are bold and not at all astute in their deviltry and bank on the good nature of the society not to throw them out. Their practice is usually limited to the vicious or ignorant and they escape punishment because they are lucky and the society protects by not expelling them. There is another group in every community who are infinitely more dangerous. They advertise as openly as they dare, graft their patients every time they can with fair promises of great things, employ cappers among the police, bartenders and others, and are not easily exposed for they even affiliate with some prominent church and move in good society. Their medical society usually knows who they are and have well grounded suspicions of what they are doing, but they are not molested.

One of the most contemptible abuses and the most wide-spread is the division of surgical fees between the surgeon (sic) and the physician who does not operate. Strange as it may seem, it is practised by men who are swift to denounce every other kind of vice and who are often eminently respected by their colleagues and the public. It is a dirty graft and is robbing the sick which is very little better than robbing the dead and altogether is mighty poor business. The "regular" who is about as bad as a quack is the fellow who works off new fads and discoveries as his own ideas, poses as a specialist, brags about his special qualifications to do special stunts, reports cures by his methods on patients who were not relieved of anything but their money and who always has a fresh graft on tap. Reputable men and societies stand for these things to their shame. A quack is an angel compared with one who practises in this way, while enjoying the protection of his society. Throw him out.

Northwest Medicine, June, 1908.

It is worth one's while to read the advertisements, sometimes. In proof of this assertion read the following clipping from a medical journal claiming to be the organ of one of our State Medical Societies:

Specialists! Sanitaria!

Increase Your Business!

The —— Clipping Bureau supplies prompt and complete information about hundreds of new cases of chronic diseases as fast as they occur.

Specialists—We can furnish you every week with the names and addresses of scores of people suffering with Cancer, Tumor, Kidney troubles, Rheumatism, etc. Our service acquaints you with every new chronic case or ailment which occurs in a specified territory.

Sanitaria—We can send you every week the names and addresses of dozens of people who are either contemplating treatment at a sanitarium, or who are sufferers to such an extent that they can be interested in good institutions of this kind.

It will pay you to let these people know about your methods and results.

For this clipping service the charge is very reasonable. Results are remarkable. ***A single month's trial will convince you.***

For particulars and complete information regarding service, address

—— *Clipping Bureau.*

EXCISIONS.

ETHICS AND PSEUDO-ETHICS.

At the last analysis ethics means doing what is right and avoiding what is wrong. Unfortunately the word has come to mean, at least to many physicians, simply adherence to the "official" etiquette of the profession—"ethics" of dry, meaningless forms, not of true manhood based upon justice and professional brotherhood. Thus an "ethical" man must follow the custom laid down for him by others as to the size of his sign, what he shall put on it, just what he may put on his business card, and a thousand and one other petty details which have no connection whatever with "fundamental principles of right and wrong," while he may in a professional way cut a brother doctor's throat, or rob his patients by needless visits or worse than useless operations and remain "of the highest standing."

How absurd the stickler for this kind of "ethics" may be, and how unfair, is shown by the following quotation from a letter just received from a physician living in a large western city. He says:

"I am a member of the county and state medical societies of this state, but do not happen to be one of the 'big dogs' who dish out the peculiar brand of 'ethics' that we are served here. My kind are in the majority in the medical society here, also, so I would not want you to class the membership as all similar to a few who are in control of things at the present time. Let me cite you an incident that happened to me a few months ago, just to show how a few of the men try to dish out ethics for the rest of their brethren. 'I had printed several months ago some cards, on which I had this line, 'Special attention given to Genito-urinary and Venereal Diseases.' A former president of our county medical society saw one of my cards and wrote me that it was not 'ethical' to have such a thing on a card. I then promptly stopped using these cards, as I was not aware of the *terrible* mistake that I had made. About one month after this I happened to see, in a popular bar-room in this city, in a large frame about 3 by 5 feet in size, a so-called Business Men's Directory.' Under the heading of 'Physicians,' the first on the list of probably ten names was my 'ethical adviser,' the former president of the county medical society, and a man in good standing now. He advertises to treat the eye, ear, nose and throat."

Am. Jour. of Clin. Med., Sept., 1900.

LITERATURE NOTES.

REVIEWS.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES. Proceedings of the Eighteenth Annual Meeting held at Cleveland, March 16, 17, 1908.

After reading this interesting pamphlet, one sighs for the temporary rule of some benign and sagacious absolute monarch, whose ukase could undo and remodel.

The educational problems in the making of a physician are so many, so varied, so complicated that one almost despairs of any logical scheme ever resulting from the agitation of the past few years.

The first paper is the address by the president, which includes a review of the agencies at work attempting to shape the Medical

Education Scheme, and some of their agenda. He places the American Academy of Medicine first on the list. He speaks of it as while having "no official influence," will influence public opinion through its discussions, although the purely ideal conditions necessarily limit the scope of its influence: "It paints the ideal rather than that which it is possible for the average man to achieve."

He takes specific exception to the desire of the Academy to have the required qualifications for both entrance upon, and graduation from, a medical school expressed in other terms than those defining the time to be given to the study. We quote:

> In criticizing the establishment of minimum time requirements in educational training, the speakers have certainly failed to voice the results of the best educational systems and the views of the best educational theory that the world has yet produced. Time is an all-important element in education and the advertisement that one school is enabled to do in six months by greater application, longer hours, or any other hocus-pocus what is achieved by another institution in a standard period only is a product of the race and the brain that has evolved gold bricks and patent medicines. So long as we are content to accept those threadbare generalizations, such as "a general education," or "a high school course," or even, "a college education," in the place of something specific, both in time and amount we shall continue to find the cheap schools running over with men who have met every requirement and yet turning out a product which is a disgrace to the nation and to the profession.

The best educational systems are but developments of systems no longer best, and are but present-day stations for the still better systems yet to be developed. The use of periods of time in defining the degree of educational advantages offered, or of mental training acquired, except incidentally, is arbitrary and mechanical. The time may not be now but the time will not be far when the formula so expressed will be deemed obsolete. One has only to turn to another page of these transactions and quote from an address by the President of the University of Indiana:

> If we are to take account of European standards, we should learn definitely what the European universities exact, not in terms of time, but in terms of knowledge and capacity.* * *.
>
> * * * * In my opinion, however, it is of the highest importance that a candidate for admission to a medical school should have the option of showing

> that he has the knowledge and capacity required by the above standard, no matter when or where or how he has obtained his training.* * *.
>
> I would not lower real standards on behalf of any one. I would omit artificial, non-essential standards for every one. I would give men a chance to show what they know and can do, with the assurance that here, as throughout the history of civilization, a stern, but just, rule of selection will bring to the front the fittest men.

To return to Dean Ward's, address. In the Council of Education of the American Medical Association, while recognizing the value of its investigations, he foresees a possibility of a danger in having its opinions dominated by thought of one man or a small coterie of men, who would not present a catholic view of the subject. This danger is present whenever any body of men are acting as a committee or board for a large organization. It cannot be avoided; the harm resulting from the condition can be reduced to a minimum, by making a slow but constantly changing membership of the board obligatory.

The action of some of the state in demanding special qualifications, not ordinarily pertaining to laws regulating the practice of medicine, is deprecated.

Dr. Albert Rufus Baker, of Cleveland, presented an investigation on the method in vogue in some colleges, of permitting their seniors to take the first year in a medical school, returning to graduate with their class—a scheme to give the small college the procedure adopted by many of the universities, in permitting an election by their seniors of the first year in their professional schools. The essayist is in favor of the plan.

Dr. Baker asserts, what is often said, that it is impossible to induce a man to practise in the country who has had a college education. In support of this statement he quotes figures to show that of the 487 graduates from Harvard Medical College from 1892 to 1901 only 38 were practising in places of less than 10,000 inhabitants.

Examination of the catalogues of Harvard for the years mentioned shows that nearly 56 per cent. of those graduating in medicine did not possess an academic degree. To make the figures quoted above of real value, it will be necessary to make the same investigations for the larger proportion of graduates. This search of Harvard catalogues revealed another fact. For five of the years (1887–1901)—the graduating classes are divided in two divisions: those receiving the M. D. degree; and M. D. *cum laude*—of the entire number graduated 38 + per cent. receive *cum laude*; of those who have an academic degree, 54 + per cent. receive the *cum laude*; of those who do not possess an academic degree, 26 + per cent. receive the *cum laude*. These figures, of little value in themselves, illustrate and confirm the statement in Dean Ward's address of the value of previous training as an aid to scholastic standing in a professional school.

It is often asserted that college-bred physicians will not take up general practice in the country. This statement is far too sweeping in its assertion. Between 16 and 17 per cent. of the country practsers in the county in which the reviewer lives have an academic degree; of the physicians living in communities of more than 10,000, the percentage is 25.

A year or two ago the Association formulated a standard curriculum; it is now considering the question of a proper equipment for a medical school. The report on this subject is from the pen of the secretary of the Association, Dr. Fred C. Zapfe. The paper was well received, and will be of future value as a standard for the valuation of medical schools. CHARLES MCINTIRE.

THE DUALITY OF MAN. Chairman's Address in the Section on Ophthalmology at the Fifty-Eighth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1907. C. C. SAVAGE, M.D., Nashville, Tenn—Reprinted from the *Journal of the American Medical Association*, 1907.

Dr. Savage's theme is of looming importance at the present time. It is intensely sociologic, it merits a careful review. The theme is triplex in character having a theologic, a psychologic and a physiologic fold. To get at the true value of the address it must be considered from each of these three points of view. The address was submitted to one of the clear-thinking doctors of Divinity, to a professor of mental and moral philosophy, and to a professor of physiology with the request for each to comment upon those parts of the address pertaining to their line of studies. These comments follow:

I.

THE THEOLOGIAN'S COMMENT.

By Rev. Allan Douglas Carlile, D.D., Brooklyn, N. Y.

I have greatly enjoyed the pamphlet entitled "The Duality of Man" by Dr. Savage, which you were so good as to send me. Of course I agree with the subject-matter, as must every one who has kept pace with modern psychology, and I desire to emphasize my accord with his conviction that the problems which confront us in this as yet so largely unexplored realm of mental influence over the body "should be solved by medical men." These forces are certainly not supernatural but natural. Their direction and application falls legitimately within the province of the medical profession, and it will be an immense gain to the church as well as to humanity in general when the physicians assert their right to use them. Instead of the physician coöperating with the clergyman, as in so many of the church movements now in vogue, the positions should be reversed and the clergyman be subject to the call of the physician only where he is needed, as in cases where religious depression exerts its baleful influence.

II.

THE PSYCHOLOGIST'S VIEW.

By John M. Mecklin, A.M., Ph.D., Professor of Mental and Moral Philosophy,
Lafayette College.

The author begins his address with the statement that if any solution of the problems connected with "faith cure and other treatments not recognized by the medical profession" is to be reached, "it must come from the study of man as a dual creature, spirit and matter, spirit a unit, the material body a union;" for mind, which is defined as "the manifestation of spirit power through the nervous system," is conceived as standing in immediate relations to all the different parts of the nervous system and even capable of aiding "the body to fight disease and delay the oncoming of death." To know the extent of the influence of mind over body, we must of course know the nervous system upon which it acts. The writer then gives us a description of the nervous system in terms of the neurone theory, following for the most part the conclusions of Cajal, Flechsig, Barker and others. In conclusion, the writer arrives at a theory as to the nature and function of the psycho-physical organism to this effect: the association centers of the brain have no physical connection on the one side with the afferent (sensory) centers nor, on the other, with the efferent (motor) centers. Furthermore, the association centers on the one side of the brain have no connection with those on the other. The purely mental is in all cases the connecting link. "The mind receives impressions through the afferent neurones" and then "sends impulses out to the various organs and parts of the body through the efferent neurones." The afferent current of neuricity simply arouses some faculty of the mind which excites some efferent current which in turn sets in motion some organ of the body. "The afferent and efferent currents are not transformable, the one into the other and *the two sets of neurones are related only through the mind*" (italics mine). When information is received through the afferent neurones it "must be taken by the mind to one of the silent areas (association centers) of the brain, and there be manufactured into knowledge." Just how it is possible for information to be "taken by the mind" from one brain center to the other without connecting neural processes, and how these connecting neural processes can exist without physically connecting these centers, we are not informed.

The writer's conclusions may be viewed either from the physiologic or the psychologic standpoint. He shows a comprehensive knowledge of the nervous system and yet there can be no doubt that he minimizes the extent to which that system and particularly the central neurones are knit together. Says a great authority, "The whole neural organism * * * is, physiologically considered, but a machine for converting stimuli into reactions, and the intellectual part of our life is knit up with but the middle or central portion of the machine's operations" (James' Psy., II, 372). In any state of consciousness, no matter how simple, the whole infra-cortical tone is modified. The sense-percept aroused by a color is not confined to the visual center but the whole cortex is active. The entire brain cortex is therefore concerned more or less in every conscious process. The assumption then that sensory and motor and association centers have no physical connection is unwarranted. Furthermore, the author fails to see that the neurone-theory, which he seems to accept, cannot possibly be harmonized with his absolute dualism of mind and body. The neurone theory affirms that the nervous system is a vast complex of three thousand million neurones so closely connected that the fibers of the sounding-board of the piano do not respond more readily or completely to the note struck on the key-board than do the neurones to every stimulus. But the champions of the neurone theory would not for a moment support the author when he asserts that the stimuli or "currents of neuricity" that travel towards the brain are at some imagined spot in the brain transformed into mental processes which mental processes set up physical processes in the efferent centers. Here we have a psychologic dualism stated as baldly as that of Descartes and presenting all the insoluble difficulties of Occasionalism. How can physical, molecular energy be transformed into an immaterial and psychic process? Thoughts are not cell-bodies or "currents of neuricity" nor can the one be transformed into the other. The hypothesis generally accepted by psychologists is that what we have is not interaction but parallelism. Every psychosis has its neurosis and they are related to each other as are the electric currents in the induction-coil.

Judging from the frequent use of the word "faculty," the writer is wedded to the old faculty-psychology long since discarded. We are told there is a "faculty" for respiration, another for the heart, several "faculties" for the digestion, a "faculty" for the liver, "faculties" for the red and white corpuscles and even for the lymphatic glands! Every organ of the body "has connection with some center in brain or cord, or sympathetic ganglion, over which center a spirit power presides." These ideas are quite at variance with the modern conception of the mind as essentially a unit throughout all its phases. Even if we grant the general standpoint of the writer, it may be objected that he is open to criticism when he affirms conscious processes of the sub-cortical neurones such as the cord and the sympathetic ganglion. As was seen from the passage quoted above from James, consciousness runs parallel only to the neural processes in the cortical area of the brain. The lower centers deal for the most part with reflex and instinctive acts. They become conscious and therefore mental only in so far as they arouse processes in the cortical neurones. We may truly say "no psychosis without neurosis" but the converse "no neurosis without psychosis" is far from being true in every case.

In conclusion it may be said, perhaps, that the writer's evident anxiety to reject any position which smacks of materialism (see p. 11) has led him to his dualistic conception of mind and body. It may be seriously doubted, however, whether his conclusions admit of justification either from the standpoint of psychology or metaphysics.

III.

THE PHYSIOLOGIST'S VIEW.

By Winfield S. Hall, M.D., Ph.D., Professor Physiology, Medical School of the Northwestern University, Chicago.

The writer has been asked to discuss the above subject from the standpoint of the physiologist.

The physiologist deals with the functions of living organisms. After familiarizing himself with the various structures of these organisms he devotes himself exclusively to the problem of determining the action of these structures during life.

Taking a concrete case: the physiologist begins the study of the stomach with a careful gross dissection of that organ, followed by an examination of its microscopic structure. He studies the steps of its embryonic development, and may include, in his observation of the morphology of the organ, its comparative anatomy.

But knowledge of the morphology of an organ is to the physiologist not an end in itself: it is simply a means to an end. The real end in view is a knowledge of the normal action of the organ. While he studies the walls of the stomach he asks: "What is the purpose of these layers of muscle tissue? Why are the muscles heavier at the cardia, the antrum and especially at the pylorus?

What is the action of the glands in the walls of the stomach? Why are the glands of the cardiac end different from those of the antrum?"

These questions, which the first critical physiologic study of the stomach undoubtedly raised, cannot be fully answered by the researches of one man, simple though the questions seem.

An early student in any field may formulate problems whose solution is not satisfactorily reached for decades—perhaps for centuries. Each generation furnishes a hypothesis which seems to satisfy the conditions as these are understood by that generation. A subsequent period, however, brings a new interpretation of conditions and more extensive and accurate means of examining phenomena. These in turn reveal the inadequacy of previous hypotheses and yield new ones which satisfy all conditions as understood at the time.

A classification of the questions raised as to the functions of the stomach will reveal the fact that they may all be grouped under one or the other of two classes: they are all either problems of physics or of chemistry.

The physiologist deals with the physical and chemical phenomena and laws of life.

Now natural phenomena involve *matter in action.* The action represents some manifestation of *energy.*

Life is a complex manifestation of energy—an endowment of complex organized *matter.*

It is difficult for the physiologist to conceive of a life phenomenon apart from matter and energy. To him both of these are absolutely essential. In the sense that he believes in the reality and necessity of matter he is a materialist; but he never loses sight of the fact that the matter is the instrument used by the energy—the medium through which it is propagated and by which it makes itself manifest. To him, therefore, *energy is the more important of the two great entities of nature.*

But energy is imponderable, it is spirit. So *the physiologist is a dualist,* he believes that every living thing is composed of matter and actuated by energy. In this sense, *all physiologists believe in the duality of living nature.*

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In his address[1] before the Section of Ophthalmology of the American Medical Association (Atlantic City, June, 1907), Dr. C. G. Savage discussed the problem of "The Duality of Man," in its relation to the alleviation of diseased conditions.

While the physiologist would probably turn, as did Dr. Savage, to the nervous system and its functions for a demonstration of the dual nature of man, it is not likely that he would feel it necessary, as a step in the demonstration, to point out a fancied analogy between the neurone and the electric battery. Such an analogy, if it exists, is remote and incidental. To insist upon it and to introduce a number of new and provisional terms in its explanation and illustration distracts the mind from the real issue.

Every physiologist, every psychologist, every pathologist, and every clinician will readily concede: (1) that man's psychic nature is no less real or important than the physical body; (2) that "the higher faculties of the mind—such as volition, memory, imagination, reason, reflection, judgment, and the emotions—joy, sorrow, love, hate, hope, ambition"—are manifestations and functions of the physical brain, which are excited or modified by purely physical conditions; (3) that disturbed function always accompanies diseased structure in the brain as in the liver or stomach; (4) that disturbed function may exist without any discernible or demonstrable disease of structure; and finally (5) that both onset of, and recovery from, these functional disturbances are profoundly influenced, if not actually controlled, by the state of the mind.

Dr. Savage presents three alternative hypotheses: I. "The old theory was that afferent centers have a direct connection with efferent centers by means of nerve fibers, and that these fibers carry the afferent current of 'neuricity' from the one to the other, the latter transforming it into the efferent current. Such a view makes man a mere machine, incapable of being set in motion except by external influences. * * * If this theory were true man could not be a responsible being. * * * This theory may be dismissed, for no one now believes it to be true."

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[1] Published in the *Journal Am. Med. Assoc.*, June 15, 1907.

II. "The second theory explains nervous phenomena by declaring that the dendrites or the collateral branches connect afferent and efferent neurones by contact, confessing that there is some power other than 'neuricity' that makes the contact or prevents its being made. But, like the first theory, this one would make the efferent current of neuricity nothing more nor less than the transformed afferent current."

III. "The third theory is that *the mind* receives impressions through the afferent neurones, and that *the mind* sends impulses out to the various organs and parts of the body through the efferent neurones. * * * The two sets of neurones are related only through the mind."

To the physiologist the third hypothesis marks no real advance over either of the others. It simply side-steps the real difficulty by attributing to "the mind" everything which goes on within the brain, and which is not readily explained in terms of neurones and demonstrable neuronal function.

The writer believes that, while most physiologists accept the duality of man as sufficiently demonstrated, they would prefer, rather than to accept any one of the above, frankly to say, "*we do not know*; *let us continue our search for the truth.*" The innumerable neurones whose dendrites and axones are within the brain must be the instruments with which the mind accomplishes its work, otherwise we can conceive no purpose for them. Let us continue our researches with a view to establishing the location of other centers and the course of other intercentral communications.

NOTICES.

THIRTY-SEVENTH ANNUAL REPORT OF THE BOARD OF COMMISSIONERS OF PUBLIC CHARITIES OF THE COMMONWEALTH OF PENNSYLVANIA FOR 1906. Harrisburg, 1908, pp. 281, 106.

This report contains much valuable information of the "Institutions" of Pennsylvania. It calls attention to the heavier draft upon the charitable resources of the state caused by the great number of foreigners who have taken up their abode within its borders. These are to be found more especially in the mining district.

An interesting item as to the hospital accommodation in Pennsylvania is gleaned from the reports of the annual inspection. Outside of Philadelphia and Pittsburg, the inspectors report the number of beds occupied at the time of the visit and the capacity of the hospital in 38 hospitals. The united capacity of these 38 hospitals was 2275 beds, 1271 of which contained patients.

INDUSTRIAL AND PERSONAL HYGIENE. BY GEORGE M. KOBER, M.D., LL.D., Washington, D. C., 1908.

This is a report of the Social Betterment Committee of the "Home's Commission" appointed by President Roosevelt. In the letter of transmittal to Surgeon-General Sternberg (retired), the president of the Commission, Dr. Kober writes that the committee finds it necessary before elaborating plans for the amelioration of present standards of living among the least resourceful people, to consider the relation of certain occupations to the health of those engaged therein. This pamphlet of 175 pages is the result of that consideration. It presents clearly and with brevity a review of the hygiene of occupation, and makes a valuable work for handy reference, apart from the purpose for which it was written, the table of contents and quite a full index aiding in this use.

STATE OF NEW YORK, STATE COMMISSION IN LUNACY, Nineteenth Annual Report October 1, 1906 to September 30, 1907. Albany, 1908, pp. 1317.

Fresh from reading "A Mind that Found Itself," the reviewer naturally gave first attention to the report of the medical inspector. He claims to have seen all the patients in the State hospitals and given interviews to all who asked for them. Nearly two hundred were thus interviewed, and many others conversed with. "In most instance complaints referred to detention only. * * * In a few instances complaints of neglect or ill treatment were made. The number of these noted during the year, and of instances in which, without complaint of the patients, bruises or other marks of injury on the face led to inquiry, was fourteen." Unless the inspection were most superficial, this speaks well for system by which the positions are filled in the New York State Institutions. The volume is filled with details of information of value to those who may be seeking information on Institutional care.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the previous issue that are not otherwise mentioned in this number. The present list records publications received from July 21 to September 20, 1908, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice or review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Fourth Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis (reserved for fuller notice).

U. S. Geological Survey, Bulletin 340—Contributions to Economic Geology, 1907.

Biennial Report of the Board of Health of the City of New Orleans, 1906–1907.

Massachusetts Medical Society—A Catalog of Its Officers and Fellows, Honorary, Active and Retired, Borne upon the Rolls, January 1, 1909.

The Present Pandemic of Plague, Assistant Surgeon-General J. M. Eager, U. S. P. H. and M. H. S., Washington Treasury Department.

The Postal Laws and Regulations Pertaining to Second Class Mail Matter, January 1, 1908, Promulgated by Authority of the Postmaster-General.

Public Health Laws in Illinois, Henry B. Hemenway, A.M., M.D., Evanston, Ill.

INSTITUTIONS OF LEARNING.

Colorado, Univ. of Colorado, Bull. VIII: 2, June, 1908; School of Medicine, Announcement, 1908, Studies, V: 4, June, 1908. *Illinois*, James Milliken Univ., Catalog, 1907–8; Univ. of Illinois, Coll. of Med., Announcement, 1908–9; Wheaton Coll., VII: 2, 3, July and Aug., 1908. *Iowa*, Drake Univ., Record, IV: 10, Announcements, Coll. of Med., 1908–9. *Louisiana*, State Univ., Catalog, 1908. *Maine*, Bates Coll., President's Report, 1908. *Maryland*, Baltimore Med. Coll., Announcement, 1908–9; Coll. Phys. and Surg. of Baltimore, Announcement, 1908–9; Maryland Med. Coll., Announcement, 1908–9; Univ. of Maryland, 102d Annual Announcement, Med. Dpt., 1908–9. *Massachusetts*, Radcliffe Coll., Reports, 1906–7. *Minnesota*, Univ. of Minnesota, Bulletin, XI: 4, 5, 7, 11, 13. *Missouri*, Barnes Med. Coll., Bull. VII: 1, July, 1908; Univ. of Missouri, Bull. IX: 4, 6, 8. *Nebraska*, Univ. of Nebraska, Studies, VIII: 1; Coll. of Med., Bull. III: 3. *New York*, Auburn Seminary Record, IV: 3, July, 1908; New York Univ., Bull. VIII: 12, May, 1908; Syracuse Univ., Bull. VIII: 2, Aug., 1908. *North Carolina*, Guilford Coll., Catalog, 1907–8. *Ohio*, Hiram Coll., Bull. I: 1, June, 1908; Miami Med. Coll., Announcement, 1908–9; Oberlin Coll., Catalog, 1907–8. *Pennsylvania*, Jefferson Med. Coll., Announcement, 1908–9; Medico-Chirurgical Coll., Announcement, 1908–9; Philadelphia Polyclinic, Announcement, 1808–9; Pennsylvania State Coll., Bull. II: 4, June, 1908; Pittsburg Univ. (Western Univ. of Penna.), Med. Dpt., Catalog, 1908. *Tennessee*, Chattanooga Med. Coll., Announcement, 1908–9. *Utah*, Brigham Young Coll., Bull. VII: 1, August, 1908. *Virginia*, Medical Coll. of Virginia, Bull. V: 2, June, 1908; Univ. Coll. of Med., Bull. II: 26, July, 1908; Univ. of Virginia, Alumni Bull., 3d S. I: 3, July, 1908. *Wisconsin*, Concordia Coll., Catalog, 1908.

REPRINTS

On other than medico-social subjects have been received from Drs. Winfield Ayres, New York; Theodorus Baily, New York; Mello Barreto, Saint Paul, Brazil; Emil G. Beck, Chicago; Nelson M. Black, Milwaukee; W. Forest Dutton, Pittsburg; Irving Fisher, New Haven, Conn.; Henry B. Hemenway, Evanston, Ill.; Lee M. Hurd, New York; J. H. Kellogg, Battle Creek, Mich.; J. E. Mackenty, New York; E. H. Martin, Hot Springs, Ark.; Albert E. Roussel, Philadelphia; Bryan de F. Sheedy, New York; Charles E. Stewart, Battle Creek, Mich.

BULLETIN
OF THE
American Academy of Medicine.

(Specializing in Medical Sociology.)

VOL. IX. ISSUED DECEMBER, 1908. No. 6

THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

LEADING ARTICLE.

STATE MEDICAL EXAMINATION QUESTIONS.

The movement for the establishment of state control over medical schools was a long while gathering force in this country. For years it was represented only by occasional resolutions in the minutes of medical associations. The active medical schools of the United States were proprietary, that is, run in the interest of the professors thereof, and these schools troubled themselves very little about the suggested reform as long as it remained academic. When the indications of a successful propaganda appeared and some legislative enactments were about to be passed, the colleges bestirred themselves, and for a while prevented definite action. Among these early antagonistic efforts was a combination of the regular and irregular schools in New York State, by which temporary delay was obtained on a bill intended to establish state control. This peculiar combination led the *N. Y. Medical Record* to say that however active these colleges might be in denouncing each other's system of practice, yet in defending their vested interest against a beneficial public policy, they could meet upon a common ground.

When such powerful mercenary interests are aroused, it is obvious that the initial legislation will be mostly compromises. The existing laws for the establishment of state boards of examiners exhibit many phases of such compromises. In some states no legislation could be secured without recognition of the three most powerful schools of practice, either by the authorization of three boards or carefully adjusted representation on one board. Then, a not unnatural fear of partiality has led to an expressed or understood rule that no one active in medical teaching shall be appointed an examiner. Although the revenue derived from such appointments is likely to be small, yet such is human nature that many seek them for honor alone, and bring political and personal influence to bear to secure them. Under this condition it has come to pass that many examiners have little ability for their task. They have no teaching experience and are often quite out of touch with methods of medical college work to-day.

In the early days of state-board examinations, a decade or so ago, much injustice was done in the scope and form of the questions. An examination in the ordinary form—by a few questions to be answered in writing—is at best an imperfect test of knowledge and training, but only those who have considerable experience in teaching know this fact. The mental stress of examinations is usually considerable, and is much increased when the questions are set and the papers marked by persons who have no experience with the pupils' work. As a result of criticisms of state-board questions, examiners have become of late much fairer. My own opinions are only applicable to the examinations in chemistry, but from opinions expressed by others, I recognize that similar objections were made in all the other branches and that improvement has been noted in all. Opportunity still remains for improvement in the methods of the chemistry examinations. Two reforms I wish to urge especially. One is that applicants for medical licensure should be eligible for examination in chemistry as soon as they have made a satisfactory record in the college course in that branch. It is unjust to expect any one to pass an examination on a difficult subject (and chemistry is probably the most difficult subject in the medical course) two years after the teaching is concluded.

Another suggested change is that general and inorganic chemistry should be left out of consideration. The examination should be limited to clinical chemistry, not even including the so-called physiologic chemistry. For my own part, I would go much further for I would exclude, entirely, chemistry, physiology, histology and descriptive anatomy. The colleges should be compelled to arrange their schedules so that these branches should be completed at the end of the second year and the state examinations should be concerned only with the teaching of the third and fourth years. Toxicologic chemistry for example should be omitted from the state examinations. Practical toxicology belongs with materia medica and therapeutics. Hygiene should be covered in the state examination; bacteriology may be included in that or in pathology.

I have elsewhere presented an essay advocating the absorption of all medical education by the national government. This would make all colleges independent of the number of applicants and graduates. I do not think that any one doubts that the abuse that developed among American medical colleges in the latter half of the nineteenth century were due to the money-stake involved. The faculty wanted the money, and so, to use the expression of one of the early reformers, "the bars were put down to let the boys in and then put down lower to let them out." No thorough reform can be secured in medical schools until all element of competition is eliminated and until the teachers feel that no portion of the salary is dependent on the attendance. As long as the college is a private corporation some uncertainty will exist and the professors will look with alarm upon a serious falling off in the attendance.

It would be tedious to take up individual instances of objectionable questions. One of the most frequent defects is ambiguity. This is easily remedied in the regular college examinations, for students may ask for explanation which is usually given, but such a course is not advisable at the state examination and is usually refused.

In accordance with the general opinion expressed above, I consider that questions about atoms or valency or tests for such substances as strychnin or morphin are inappropriate. I do not think that the medical graduate has any use for Marsh's test or for a process for making hydrogen or nitric acid.

With all its faults, the system of state-board examinations has done a great deal of good. It raised the American medical schools out of the mire of downward competition and gave them a considerable degree of self-respect as well as enhanced the standing of American medical graduates abroad. Any one who is familiar with the conditions that prevailed in medical colleges just after the civil war, will see in the vast improvement that has taken place since then, an earnest of the improvement in the future, but it is not in human nature that this should be attained under what is termed "enlightened self-interest." As long as the competitive system prevails among medical schools, the state-board examination will be needed to maintain and advance the standards of medical education.

HENRY LEFFMANN.

ON STATE LICENSING EXAMINATIONS AND STATE CONTROL IN MEDICINE.

In discussing state medical examinations, we should recognize at the outset the fact that a written examination alone may constitute a very incomplete test of a candidate's knowledge, training or capacity, and that, this being the case, such a method of determining fitness should be employed with discrimination, intelligence and with punctilious regard for the rights of candidates which must be carefully safe-guarded. I shall not at this time discuss the question whether written state licensing examinations should be supplemented by oral and practical examinations and other tests to determine fitness. This has been debated by others and it is a matter which needs discussion, but since no such supplemental methods are at present applied by our boards, I shall confine my comments to the written examination as it is ordinarily conducted. And in the consideration of this matter, in so far as the scope and character of the examinations is concerned, I shall confine myself particularly to the subject of chemistry and those related branches which are ordinarily included under this head.

The right of the state to prescribe a standard of proficiency or competency in the professions, and other occupations in which services are rendered to the public, has seldom been denied. But the enthusiastic devotees of state control not infrequently forget how widely conditions in this country differ from those existing in foreign lands, and in their desire to secure the adoption of the same methods of supervision that obtain in other countries they often go counter to the needs, wishes and best interests of a majority of a people accustomed to enjoy a large measure of personal freedom and unused to irksome and bureaucratic interference with what they believe to be natural rights. Whether the laws and social customs which, in some countries, tend to keep the people in certain well-defined classes and render access to the professions difficult are, in their operation, advantageous to the people as a whole, we need not stop to inquire, but certainly those who desire to pattern our laws regulating professions and other occupations after those of Germany, Austria, Russia or even England, will do well to consider whether conditions are identical, and whether the same kind of repressive regulation is called for, or needed, by the people of America.

And another fact ought not to be disregarded. In a country like ours the educational standards and the social and industrial conditions vary as widely as do the physical conditions like the climatic. In one region the people are mainly engaged in agricultural pursuits, and in others in mining or manufacturing occupations. In one locality the population is dense while in another it is scattering. The general average of refinement and wealth varies greatly in different parts of our country, and those who, in their desire to secure uniformity in such matters as the regulation of the professions, urge the enactment of similar laws in all the states, are dealing arbitrarily with problems which demand careful and very intelligent consideration. For example, it is not to be expected that you will find in a drug-store at a country cross-roads the same stock of drugs and medical appliances, and the same facilities for compounding prescriptions and filling orders, that you have a right to look for at a store in a city of a hundred thousand inhabitants, and, similarly, you will be both unreasonable and illogical in your demands if you expect to find the same special knowledge, experience and skill possessed by the *average* country practitioner that you may find in *some* practitioners in the great cities. It is pure idealism and absolute utopianism to say that the poorest man in the most remote regions should receive the same grade of professional services that the wealthy residents in the great centers of population may obtain. Society is not so constituted and will not be for centuries to come. The working of natural economic laws will not admit of such a condition however desirable it may seem, and it is equally visionary to imagine that the medical schools of the country can all be raised to the same level, or even to assert that there *is* any definite form or standard for medical schools, or any kind of schools whatever. Dr. Beates, President of the Pennsylvania Board of Medical Examiners, in his "Criticisms on the Present Medical Curriculum" (this Bulletin, February, 1908) calls the existing medical curriculum in our schools a "monstrosity," and says that "to remodel it is the crying need of the hour." I have no sympathy with such wholesale condemnation and unjust criticism as this, but hold with President Eliot, of Harvard, who at the last conference of the Council on Medical Education of the American Medical Association held in Chicago in April 1908 said: "If I were asked what branch of education the greatest improvements have been wrought in during the last thirty-five years I would say without a moment's hesitation that it is in medical education," and with Dr. Councilman who at the same meeting said: "I firmly believe that the development [of medical schools] has been due more to the forces acting within the school than to pressure from without, and it should make us proud that the medical schools throughout the land have responded so nobly to the advance in medicine, and have striven to raise the standard in education in spite of the fact that in many cases this has involved very serious pecuniary loss to the schools." The educational institutions in any state or municipality will reflect the social conditions in the community and be responsive to its needs and demands, and in size and character they will generally be proportioned to the wealth and resources of that particular territory, and if we possessed a standard of excellence with which to measure them, they would invariably be found to fall short of perfection. The error which lies at the root of much reasoning and accounts for its speciousness is the assumption that *any* curriculum in *any* institution can ever be arranged and applied in such a manner as to produce uniformly excellent and standard results. Such a result never *has* been attained, and it probably never will be while human nature remains as it is. In the last analysis every man must educate himself and no two men start in life with the same faculties, capacities or desires. The intelligent and industrious will learn without teachers, or despite the influence of bad ones, and the dullards and idlers will never learn though they have the best of masters placed over them. And yet some critics of our schools appear to believe that the output of our educational institutions should be as uniformly graded as the products of a mill or a factory. Such an assumption is false and mischievous and the source of error in all the reasoning which is based upon it.

From what has been said it will be seen that I am by no means in sympathy with the efforts put forth by the Council on Medical Education of the American Medical Association to bring about a uniformity in the teaching of the medical schools, for I believe such uniformity to be neither possible of attainment in practice nor even desirable. And I entirely dissent from the methods employed by the council in striving to determine the relative standing of medical schools, which I believe to be arbitrary, inconclusive, idealistic, rather than practical, and often unnecessary, meddlesome and annoying to the schools, and to those who are carrying on the real work in the places in which they are set, while these gentlemen are investigating them. Such recommendations as that of Dr. Bevan's in his address as chairman of the council at its conference last April, that: "The state boards of each state should inspect its schools and refuse recognition to those which are not teaching scientific medicine," I have elsewhere opposed,[1] and shall continue to oppose. Until such time as our medical examining boards are created in a different manner, and are differently constituted from those at present existing in most of our states, it would be, in my judgment, in the highest degree impolitic, inexpedient, unsafe and unjust to place any such responsibility in their keeping. Such ideas, and the council has stood for many such, are unreasonable and chimerical, and those who are engaged in, or interested in, medical education ought carefully to consider the aims of this body lest they unwittingly endorse unwise and revolutionary measures, which if carried into effect would result in confusion in our educational affairs and work injustice and hardship to many. This extraordinary proposal to place the medical schools under the control of the examining boards was advocated editorially in the *Journal of the American Medical Association* in its issue of September 14, 1907. Have those who favor such a measure really considered what the proposal to place the schools under the control of frequently changed and variously appointed and constituted examining, licensing and health boards—boards which are often created by methods purely political—really means! It means, for instance, that in the state of New York, colleges having long and honorable records, deriving their powers from state charters, from the Board of Regents, or from great universities, would be placed under the control of a board at present consisting of four regular physicians and five practitioners of exclusive systems. But aside from other considerations there can be little doubt that such a plan would be declared unconstitutional in this state, for the arbitrary action of such a board in "closing" schools which, in its opinion, were not "teaching scientific medicine" would mean the destruction of established and important rights.

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[1] Address at opening of 79th session of Albany Medical College, Sept. 24, 1907, *Albany Medical Annals*, Nov., 1907.

And the pressure which is constantly brought to bear upon the colleges by the council, which persistently urges that they increase their entrance requirements to a minimum of one or two years in a college of arts, with the ultimate object of requiring a full college course at entrance, should be resisted by those schools which consider their present requirement sufficient. The cost of obtaining a medical education, both in time and in money, is very rapidly increasing, so that each year it is becoming more and more difficult to enter the medical profession. As I have elsewhere pointed out, the more money that is given to educational institutions the greater does the cost of education to the individual ordinarily become, and it will be a deplorable thing indeed if only the rich can take up the study of medicine. Yet in this direction do we seem to be moving and if we go too far and too fast we shall have a reaction which will lead to the repeal of many of the regulative and restrictive measures which have been enacted. In all such matters as the control of the professions by the state time must be given for adjustment, since neither professions nor trades can be revolutionized in a moment by passing laws to suit the wishes of idealists. If we really desire to elevate our profession we should be willing to move slowly and not expect to secure immediate perfection by putting up bars and enacting revolutionary and unjust laws.

I come now to speak of the character and scope of the written licensing examination in medicine and particularly in the department of chemistry. And I remark:

1. That all examinations should be so planned as to be fair both to old practitioners and recent graduates. To this end some latitude in the choice of topics ought to be allowed, and the method in use in New York, New Jersey and possibly a few other states, of giving fifteen topics from which the candidate may select ten, is highly to be commended. And for a similar reason the topics ought to cover a wide range and not be confined to some part of the subject, as, for example, to theoretical or to descriptive chemistry, but they should deal chiefly with matters which have some practical bearing or interest. A person may be a very competent practitioner of medicine and yet unable to say very much about "valence," or the "four functions of a symbol" (So. Dak. exam., Jan., 1908), though a pupil fresh from a high school course might find no difficulty in answering such questions.

2. Technical analytical processes in special departments, such as food or water analysis, should not be called for. In the

January, 1908, examination in the state of Washington we find this question: "How would you detect the presence of one of the following in food products: boric acid; formalin; salicylic acid?" The official answer as published in the *N. Y. Medical Record* of September 12, 1908, selects boric acid and gives eleven lines of fine print extracted from a treatise on hygiene describing *a* particular process as given in *a* particular book. This is quite indefensible. The practical analyst makes no attempt to carry the details of such processes in his head but is accustomed to work by his books, and examiners have no right to demand the possession of such detailed knowledge from applicants for license, and the setting of such questions illustrates a remarkable misconception entertained by many examiners, which is a very unfortunate fact from the point of view of the applicant for license.

3. The completion of partially stated chemical equations should seldom be called for. In this respect examiners not infrequently exhibit a remarkable misapprehension. They appear to imagine that a chemical equation, like certain equations in pure mathematics, may always be solved and can only be completed in a single manner. Such is by no means the fact. Chemical equations exhibit to us in a quantitative manner what *may* take place when certain substances act upon others under certain conditions, and physical state, temperature, pressure and other factors have much to do in determining what the action will be. In many cases there may be no action at all unless certain conditions exist, and in *all* cases the results are such only as can experimentally be proved, and in many instances these results cannot be foretold. Chemical equations then are radically different from pure mathematical statements, and the habit of selecting equations at random from standard text-books and requiring their completion, a part only being given, is an abominable practice which cannot be too strongly condemned. It frequently betokens an imperfect understanding and may even be indicative of great ignorance on the part of the examiner. I do not wish to be misunderstood here and desire to add that certain equations representing typical reactions and famil-

iar chemical changes may be properly selected as examination topics, but they must be chosen with intelligent consideration or they will be entirely unfair as tests of knowledge, and may indeed be such as no ordinary chemist could answer because the data supplied may be insufficient, or the facts called for such as lie outside his experience.

4. As a rule, isolated facts having no practical application nor particular interest should be avoided. For example such questions as, what is the rarest element, the heaviest metal, etc., should not be given. Probably no one knows and if any one does it is of little interest or importance.

5. Questions should be clearly stated, free from all ambiguity, and technical terms should be used correctly. An "equation" should not be referred to as a "formula" (Illinois, Oct., 1907), nor should ether be called "sulfuric ether" (N. Y., May, 1908). Such questions as "What is a chemical mixture" (Idaho, April, 1908) are quite unmeaning, and it is certainly hard to understand what the examiner had in mind by asking "Under what circumstances is ozone found?" (N. J., June, 1908). In recent papers "phosphids" in the urine, probably meaning "phosphates," are referred to and we find "Describe the preparation and state the uses of cyanogen," in which demand the examiners' meaning is exceedingly doubtful to say the least of it. Candidates who fail to answer such questions to the satisfaction of the examiner ought not to be blamed. The blame should rest elsewhere.

6. Questions involving methods of manufacture of chemical and medicinal compounds are seldom justifiable. For example, "How is tartar emetic made?" (Michigan, June, 1908). It never *is* made either by the physician or pharmacist and no process of manufacture is given in the U. S. Pharmacopoeia. Some manufacturing operations may properly be described in a course of lectures, and of course such processes are properly given in books which are intended to be used as works of reference, but students should not be required to burden their minds

with such details, and it is very seldom that questions of this class can be selected with fairness as examination topics.

7. Examination questions should be confined to well-established facts and principles, and should not deal with transient fads or individual theories in medicine. In the Michigan examination in May, 1908, one of the questions dealt with the influence of atmospheric ozone upon epidemic diseases and its effect on the respiratory organs. Now as a matter of fact we know very little about atmospheric ozone, its quantity, variations in quantity, and influence upon animal life and health, and such subjects ought not to be selected as examination questions.

8. Such questions as "Give Marsh's test" (N. J., June, 1908) are not well chosen. There are hundreds of tests known by individual names, and the student may easily confound them. It would be much fairer to call for Marsh's test for arsenic, Griess' test for nitrites, etc.

In conclusion, if no injustice is to be done to the candidate, the marking of the papers must be patiently, intelligently and carefully done. I know of no more tiring task than the reading of examination papers, but he who assumes the responsibility should perform the task faithfully and fairly or resign it to another. We may repeat at the close what was said at the outset that the written examination is at best an incomplete and unsatisfactory test of knowledge and capacity, and if it is to be employed at all it must be used with discrimination and consideration. When I observe that candidates fail before some of our state boards who had recently passed the repeated examinations, and complied with the other requirements of the faculties of some of our best schools from which they have been graduated, I am greatly in doubt which judgment as to fitness is correct—that of the faculty which has trained and has personal knowledge of the character and capacity of these graduates, or of the examining board which has judged them by a single series of exclusively written examinations, perhaps poorly adapted to the end in view, and possibly with an improper valuation of the papers submitted by the candidates. On the whole, I am inclined to think that the mere fact of graduation from any one of a large number of our medical schools is *prima facie* evidence of competency requiring good and well-established evidence to refute, and that, in the interests of justice, some method of appeal to a competent and impartial tribunal from the decisions of our examining boards ought to be provided. I believe that it would be proper to examine the examiners on appointment, and from time to time thereafter, just as army surgeons are required to come up at occasional intervals for re-examination. Were such a test of competency required it would be interesting to observe how many of them would be willing to undergo such a test, and how large a proportion would resign their office rather than submit to it. Certainly those who serve the state in positions of such responsibility should be willing to have their ability to discharge their duties properly and justly determined by such tests as are applied in our civil service examinations. There would be no impropriety nor any indignity in this. If the state is to determine a man's competency to practise medicine, and I think it may properly do this, then it behooves the state to provide, under all circumstances and at any cost, examiners of proved capacity and competency, that the rights of applicants be not infringed and all their interests be abundantly protected. There is much here that needs discussion and careful consideration to the end that some betterment may be effected where faulty conditions exist, and if, by bringing some of these matters to the attention of the profession, I may aid in any degree in the inauguration of a new era my efforts will not have been entirely in vain.

WILLIS G. TUCKER.

REPORT OF THE COMMITTEE TO CONSIDER AND REPORT UPON THE BEST MEANS FOR THE MEDICAL PROFESSION TO TAKE PART IN THE EDUCATION OF THE GENERAL PUBLIC IN MEDICAL MATTERS.[1]

The title of this committee might be supposed to indicate that after considering different possible methods for the medical education of the public, it was to choose and report upon some one as best, and therefore entitled to precedence over all others. But such a supposition is incorrect; that the committee was not expected to choose a single "best means" appears from the variety of "means" referred to in the discussion which took place in the Council with regard to the appointment of the committee.[2]

There is no one best means that should supersede all other methods of educating the public. In all his professional relations with patients, or with the general public, the physician is pre-eminently a teacher. Medical sociology is but part of the domain in which the teaching function is to be exercised, and the breadth of that part is well illustrated by the report of Dr. W. S. Hall, upon the field of activity of the American Academy of Medicine.[3] As pointed out by Dr. Hall the field of activity includes important topics in each of these branches of knowledge; statistics, political science, political economy, law, administration, associations and institutions, education, commerce and communication, customs, costumes, and popular life.

In the daily life of the individual, and the daily life of the community there arise a multitude of questions upon which medical knowledge alone can throw the proper light, a myriad of problems that can only be rightly solved when viewed from the standpoint of the supreme importance of health. To render available that light, to place every teacher, every legislator or administrative officer, every individual citizen at that right standpoint, is the educative work of the medical profession. It must be carried forward by means as numerous as the opportunities which the multitudinous contacts, and the complex relations of the physician in the life of the community afford. To consider and report on all the "best means," for the education of the public in medical matters, is impossible within the limits of this session of the Academy, or this whole annual meeting. We shall undertake only to indicate in a general way what some of these means are, that those more specifically considered may be seen in their true relative importance; to discuss briefly certain methods that are now attracting wide attention from the profession; and then to say a few words on the peculiar importance of the share in this work in this field that falls properly to the Academy.

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[1] Presented at the 33rd annual meeting of the American Academy of Medicine Chicago, May 30, 1908.

[2] See Bulletin American Academy of Medicine, August 19, 1907.

[3] *Ibid.*, p. 262.

Of ability to teach; one-third is knowledge of your subject, and two-thirds understanding of the mind to be taught and of the methods of impressing your conception upon it. In the relation of physician and patient exist conditions for successful teaching that are often most difficult to attain elsewhere. There is the personal knowledge on the part of the teacher of the mind of the pupil. Until the doctor knows his patient the professional relation is incomplete; the opportunity for service limited. The success of the experienced practitioner rests quite as much upon his experience of men, women and children, as upon his experience with regard to disease; as much upon his mastery of practical psychology, as upon his achievements in diagnostic or therapeutic technique. The successful doctor has attained a high degree of a knowledge of minds in general, and especially of the mind that he has the opportunity to teach. Then the interest of the pupil is concentrated upon the subject in hand. Pain, fear, the hope of relief, the hope of prolonged life, all stimulate the powers of apprehension to a high degree of activity; and this attitude of receptiveness extends to, or has been awakened in, the minds of parents, relations, and associates, so that in most instances the teaching will reach and benefit a considerable group of individuals. In the third place the patient's illness furnishes a concrete illustration of the lesson to be taught, a necessary condition of the most effective teaching.

The opportunities of the physician to educate the public in the course of his daily practice are of the highest value and importance; and they are probably not any better appreciated and utilized than the opportunities for teaching through schools, or periodical literature. They cover an immense field, they ramify through all the differentiations of disease to touch every habit, custom, influence and material condition of life; and in time they reach every member of the community through numerous channels of interest and sympathy. We would suggest that at some future meeting this special subject of the teaching of the patient, or the patient's family, by the physician in his every-day practice, might be made the subject of a special report and discussion before the Academy.

Within a few days after our meeting at Atlantic City last year, the House of Delegates of the American Medical Association received the report of its committee on the establishment of a Board of Public Instruction, adopted an amendment to the by-laws of the Association, creating such a board, and appointed to that function: Drs. J. G. Clark, Philadelphia; F. F. Simpson, Pittsburg; Frank Billings, Chicago; Geo. H. Monks, Boston; L. S. McMurtry, Louisville; Howard Kelly, Baltimore; and E. L. Holt, New York. The work outlined for this committee includes the publication of suitable articles through the public press, furnishing such articles in pamphlet form for general distribution, the organization of lectures, in connection with medical schools, or under the supervision of county medical societies, and the distribution of circular letters to the medical profession.[1]

The supplying of popular articles upon medical subjects to the lay press, by authorized representatives of the profession, has been many times suggested and occasionally tried. The supplying of such matter by a central body has certain obvious advantages of economy and convenience, and the prestige of the central organization of the profession may secure a more general publication of the matter that it sends out, than would be possible were the work left in the hands of local medical societies. But the efficiency of the scheme is not yet so well demonstrated that it would be advisable to give up any method of public education already established. A direct response to local interest, teaching planned to meet local conditions, may often be more effective. It is the short circuit that gives the most striking manifestations of force. The committee in its report reached no conclusion as to the relative wisdom of signed or unsigned communications to be thus transmitted to the public press. Probably fields of usefulness will be found for articles of both classes, and experience will in time settle their relative applicability in any particular case.

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[1] Journal American Medical Association, June 15, 1907, p. 2046.

Recognizing that these questions are for the present the subject of interested study by competent members of our profession, the Academy can afford to leave with them the subject of reaching the laity through the newspapers. It should be remembered, however, that while great numbers of people read from the newspapers, any particular article appearing in them is embedded in a great mass of miscellaneous unclassified material. No one reads all of it. Each person looks for news about certain things in which he is interested, and he has forced upon his attention those articles that are emphasized by headlines and illustrations. But this emphasis will very rarely be given to medical matters—only when they are novel or strikingly sensational. The newspaper can be used to disseminate knowledge regarding matters of temporary interest. But being only partly read and flung aside when the next issue appears, its value as an educational force is limited.

There is a large class of periodical literature which will not be reached by any such Board of Education as the American Medical Association has established. The weekly or monthly magazines, such as *Colliers*, or *The Ladies' Home Journal*, deal directly with authors, and for their more important articles publish only signed communications. If it were more fully recognized that the education of the public through well-written popular articles on medical subjects, was both a legitimate and highly praiseworthy work to engage in, such appreciation would tend to induce physicians, who have the talent for popular instruction, to devote more time and effort to the production of this kind of literature.

The authors of sound, clear, popular books upon medical topics, hygiene and related subjects, should also be recognized as doing an important part of the general educational work of the medical profession. There has been too much of a tendency to look askance upon those who write for the laity upon medical subjects. The printed book always has to run the gauntlet of criticism, and the popular work is too often judged unfavorably by the profession because it does not fully conform to certain scientific standards. Let us frankly recognize the real need for this kind of literature, and heartily support with our approval those who undertake to supply it.

The Board of Education of the American Medical Association is also expected to provide for the distribution of leaflets and pamphlets upon special subjects of hygiene or the management of particular diseases. This kind of educational work has been efficiently carried out by some Boards of Health. The manner in which it has been done in Michigan was described to us by Dr. Vaughan in 1903.[1] In many respects local boards of health are favorably situated for the distribution of such literature. The agency of the profession may well coöperate with all such established agencies rather than attempt to supersede them.

Before leaving this branch of the subject we would make this suggestion to the American Medical Association and its Board of Education: Many journals of hygiene, intended for circulation among the laity, have been started and conducted by private parties. But the general character of periodical publications of this kind has never been very high. The physician interested in educating the laity with regard to physiology, hygiene, and medicine, has never been able to point with pride, or recommend with unreserved approval, the periodicals of this class. Would it not be possible for the American Medical Association to establish a popular monthly journal of hygiene, and to secure for it the editorial management, and the contributors of literary and scientific attainments, that would make it of the highest value? We could at least hope that the influences that have compelled conformity to the ethical standards of the profession

[1] See Bulletin of the Academy, August of that year.

in the *Journal of the American Medical Association*, and the journals of some State Medical Societies, would exclude those advertisements which have been the disgrace of most popular journals of hygiene.

The possibilities for the education of the public through popular lectures upon medical and hygienic matters, have been revealed by the phenomenal success of those given by the organizer of the American Medical Association. Up to the present time we have developed but one Dr. McCormack. But he lived among us many years before his greatest value to the profession and the public was recognized. There must be other material from which such teachers might be developed, now that work of this kind has been done and its value demonstrated.

It has to be recognized that fitness for this kind of popular instruction is an exceptional talent. The profession should give opportunity and support to those who possess it. We must not act as though any one who had completed the usual college course of medical study in a creditable manner was equally fitted for such work; and assume that because some of us fail to hold our audiences, or enforce upon the public the ideas that we advocate; that therefore the public has no desire for this kind of instruction, and is incapable of education along these lines.

With frank recognition of the fact that it is the work for those who have an especial association of abilities; that it is a true specialty in the profession; that it is to be carried on for its direct results, and not as a means of attracting patients to a consulting room; our local medical societies can do a great deal to get such lecturers before the public, and the profession will reap a very substantial return of better appreciation in the community that is thus enlightened. The work of the American Medical Association in this direction may be supplemented by similar efforts on the part of state medical societies; and local medical societies may well take it up, especially by making local arrangements for lecturers speaking under the auspices of the state or national association.

An educational undertaking through which each local medical society can come to exert an important influence in its community, and in which many of its members can take some part, is the holding of meetings for joint discussion with the laity of matters of public interest; about which good citizens must form judgments, that can only be thoroughly sound when these matters have been viewed from the standpoint of the medical profession. Local questions of education, health and administration should be thus discussed. The proper attitude toward nostrums, quackery, the care of the insane, the administration of hospitals, and charities in general, the relation of the medical to the dental, pharmaceutical and legal professions should receive such consideration. Sometimes the medical profession can assume the attitude of a teacher instructing the laity, at other times it must meet other members of the body social for joint discussion of the matters of common interest.

Certain subjects, in which the public requires education and guidance from the medical profession, are of such wide-spread interest and permanent importance, that they justify the formation of special societies and congresses devoted to propaganda with regard to them. Such are the subjects of tuberculosis, and of sanitary and moral prophylaxis, or social hygiene. The impulse to the formation of such organizations, and the early direction of the activities must be very largely in the hands of physicians. Other associations, like those to discuss charities and correctional institutions, should always have available expert medical knowledge, and should be made familiar with the aspects of their work that are presented to the physician.

Now as to the work of the Academy. It is said that Pitt once explained his enormous power of achievement by his division of his work into three classes: that which was as well left undone; that which others could do as well as himself; and that which was enough for any man to do. The Academy must recognize its similar limitations in this field of the education of the public in regard to medical matters. Your committee would suggest that there are two lines on which it can work with greatest advantage.

Formed primarily to improve the preliminary education of those entering the medical profession the Academy has always been largely occupied with questions of education. Any broad discussion of school and college training preparatory to the study of medicine, takes up the curricula, the methods, the requirements, the conditions of all school and college training. But with regard to school and college training, and through these, there is a great and permanent need for the medical education of the general public. However important it may be that the public be made acquainted with the new discoveries of medical science, with the extended means that become available to combat disease, with the truths of hygiene, that are especially applicable at particular times or in certain localities. However important it may be that the wide-awake, intelligent, reading public be given access to correct and scientific popular expositions of medical truth through magazines and books. However important the arousing of the public conscience and the directing of social forces in combatting with particular evils, like smallpox, tuberculosis, the social diseases. However important the exposure of quackery and the establishment of the proper relations between the medical and the other professions, and between physicians and the general public. It is most important that children during school life, be given that attitude of mind, that enlightenment of intelligence, which will prompt and enable them to shape their lives in conformity to standards of health. That will make the ideal of health one of the most real and important of formative influences in their lives. So that, by the probable influence they will have upon health, they shall regulate plans, activities, and the gratification of desire. The teaching, the training, the living of hygiene in schools, is a matter of such broad relations and vast influences, that the improvement of it, and extension of it, and the support of those who work for it, may well be an important part of the work of this Academy.

Finally, this Academy as a learned society, giving attention to original research work in medical sociology, should encourage this work in the direction of popular education in medical matters. It should also provide for placing before the general public such of the papers and reports read before its meetings, as will be of value in this work for popular education in regard to medical subjects. This may be furthered through the exchange list of the BULLETIN. On that list, educational journals and popular science publications should be represented, as well as foreign or domestic medical journals, and scientific transactions.

Your committee recommends: To the individual Fellows of the Academy an active interest in the various educative movements referred to in this report. That the Academy itself continue its studies, discussions and recommendations regarding the teaching of physiology and hygiene in the schools. That it encourage original papers and discussions bearing on the education of the public in medical matters, and provide for exchanges with publications devoted to education and popular science. And that at an early meeting it arrange for a discussion of the education of the public, by the physician in active practice, through his patients.

DISCUSSION.

Dr. Casey A. Wood, of Chicago:

I was led to hope that a committee of this kind would be appointed and that we should have a conference bearing upon the work. Helmholtz was, I think, the first of celebrated men to claim that it is the special function of the medical profession to instruct the public upon medical matters. We know only too well the intense conservatism of our profession. I am not saying that conservatism is not desirable, but we are well aware that in the matter of teaching the public there is often a collateral notion that the individual who devotes his leisure hours to writing articles for newspapers sometimes has an ulterior object in view; namely, the collecting of patients for his office rather than the gathering of statistics for educational purposes. Notwithstanding these objections, however, I think it is the manifest duty of the medical profession to teach the public in regard to the medical aspects of sanitation. I am consequently much pleased to have the suggestions of this committee even if they have not as yet been very definitely formulated.

The question arises, What shall the American Academy of Medicine do in this matter? If some Fellow of the Academy would present us with a hundred thousand dollars, I think we might secure the services of a second McCormack. If that is not feasible, my idea would be to appoint suitable physicians, Fellows of the Academy, or others who would give lectures to be reported in the public press and to be read by the laity. In this way we would be doing a most important work. The distribution of pamphlets and the writing of articles in magazines would not have the effect that a column in the daily newspapers would; the public press is the effective agent through which to spread the truth about medical matters. If we could also have articles on hygiene and other subjects written and published in much the same fashion as one of our distinguished Fellows—Dr. Woods Hutchinson—is now doing it would undoubtedly add a considerable quota to the work of lay education.

Dr. Henry B. Hemenway, of Evanston, Ill.:

The first thing to do is to impress the people in one way and another of the necessity for a careful systematic study. Take the matter of our vital statistics. In this the Government has to exclude in its bulletin the vital statistics of many states because they are not recorded accurately. The secretary of our Board of Health once wrote me that the people do not realize the necessity of the vital statistics and that therefore it was useless to get a more exact legislation upon the subject. I also have a letter from a United States Senator which had direct bearing upon some matters of general sanitation. He said that he had been devoting so much time and attention to the study of law and politics that he was utterly ignorant upon that subject. I think our first point must be gained by making the people feel their need of sanitation. The matter should be made a subject of study in which should be included such questions as the relation of the milk and the water supply to various diseases. There should be also a study of the origin of the disease. There has not been sufficient study of this, because the ordinary practitioner is devoting his attention purely and solely to the cure of the disease. He feels that every bit of study back of the cure is taken away from his work as a practitioner. Such work as is being done by Dr. Evans is an opening wedge. He is making public speaches and everywhere he is well received because he is not working for his individual advancement but is studying the needs of the people.

It is of the utmost importance that these lectures, in order to be efficient, must be so thoroughly divorced from all personal ends that the people cannot feel the matter is simply an advertising job. For example, my attention was recently called to a man who is the head of a sanitarium lecturing upon the Chatauqua platform. The benefit of his valuable lectures is lessened by the impression that he is advertising his sanitarium. Such lectures as we desire must be paid for, and they must be practically divorced from private practice.

Dr. Leartus Connor, of Detroit:

The growing of good citizens is a problem as old as the world, and is the problem of to-day. As the teacher is imitated by the scholar, so the doctor educates the community in which he lives; hence he must be living as he would have children grow and citizens live. With this axiom in mind it is disheartening to be told that most of the drug-habit cures are supported by doctors as patients. In Michigan, we have tried a method of educating the public under the auspices of the Board of Health which has worked very well. We gather together in each little community all residents who know something about the conditions of life in their neighborhood, something of the water supply, sewerage and condition of the school buildings. By this method the people are induced to study and discuss their own problems under the guidance of experts, the State Health Board. Thus, matters pertaining to their own communal life were brought home to them as no outsider could do. I do not see why the county medical societies should not induce people in the large towns to do the same thing regularly. In order for a doctor to educate his patients, he must enter into their lives. They may live in good houses and the inside be rotten with bad air, food and ideas. My observation has been that when we know the conditions under which our patients live, and they know that we know, they will try to improve. Publishing of articles written without relation to any particular conditions does little good. If, however, we have something that we must tell because men and women are suffering harm and we know a way to prevent it, such information will not be misconstrued.

Dr. Carl von Klein, of Chicago:

This discussion is very appropriate. We have developed a high grade of intelligence and sanitation. We have made ourselves comfortable. We have taken away the "back houses" from our yards and put the toilet into the house and by this made it possible to inhale the most unhealthful of gases. We have the sewerage system so that it drains into the water which we consume. That is the advancement of the hygiene of civilization. Forty years ago we had one of the greatest men of our time take this matter much to heart. Dr. Beard has written books on the subject, worked hard to instruct the public, but you might as well try to convert the earth into a vacuum as to do that, from the very fact that people will not do anything that will give them any discomfort. At the present day the method we have of teaching the public hygiene or medicine is so common that there is not a doctor who publishes an article who does not get reprints. These reprints he sends out as an advertising medium, at the same time making a reputation for himself. The people want to know what the profession has done that will produce longevity; they don't want to see a doctor advertise himself. All these magazine articles are so much waste.

Dr. Philip Zenner, of Cincinnati:

It seems to me that after all, the most could be hoped for by reaching the public through the public press. Lectures reach but few people and so with periodicals. The majority of the people, however, read the public press and may be taught thereby. It strikes me that if it were the custom to publish authoritative articles in the daily paper, and they were so sane that none could dispute them, the time would come when people would look to that column as commonly as to-day they look at the baseball column. But people must be educated to a matter of this kind as in anything else, and if sane methods are adopted the daily press may become the great educator of people in matters medical.

Dr. Joseph K. Weaver, of Norristown, Pa.:

It seems to me that the best practical medium of communication between the Medical Profession and the laity is the County Medical Society. We have had in Norristown, Montgomery County, very recently a Tuberculosis Exhibit. Application was made by the State Board of Health to the Montgomery County Medical Society that they coöperate with the State Board of Health in holding a Tuberculosis Exhibit. The proposition was reported to the Medical Society. A committee was appointed, and it was found that more money was required for the exhibit than the society could afford to expend. We suggested to the local Board of Health that they take it up, and the County Medical Society would coöperate with them. They accepted the offer, furnished the money, with the result that we had a week of exposition of tubercular pathology—daily demonstrations of the same, by members of the County Medical Society, together with a course of evening lectures upon live sanitary questions by experts and with an attendance of about seven thousand persons during the week. This experience shows that the people are interested in subjects pertaining to their physical betterment and can be reached in this way. It seems to me that it would be practically impossible for a physician to communicate through a paper or press upon any medical subject to the laity without the imputation being made that he was doing the work for personal notoriety or gain. Through the medium of the County Medical Society all criticism would be disarmed.

Dr. Thomas H. Shastid, of Marion, Ill.:

The Youth's Companion has for many years published on a certain page a half column devoted to such things as the subject of our discussion and I believe it has done great good. The articles are unsigned, are accurate and entirely scientific. Those who read them are chiefly young people, persons on whom the deepest and most lasting impressions are made. We should remember what has been done by Dr. Woods Hutchinson. As an example of the benefit of such writing, I would say that recently a man came to me for the removal of his adenoids simply because of an article by Dr. Hutchinson which he had read in the *Saturday Evening Post*. All are acquainted with the work of Samuel Hopkins Adams and of Mr. Bok. I believe that among the farm people instruction in hygiene is especially needed. Farmers should get away from the idea they have of keeping clean air out of their houses. If we could have articles written by competent physicians and published in the farm journals, that would do a great deal of good. Many of these journals have begun to exclude all forms of patent medicine advertising, and they would be glad to give their readers correct medical information. They particularly want something short and to the point.

Dr. John H. Tressel, of Alliance, O.:

I find that the farmers are beginning to desire knowledge in the matter of sanitation. I recently was called to a place where the whole family was suffering with typhoid fever. I told them that I believed the cause was in the water. Although the water was examined by chemists, they claimed nothing deleterious was found. By further inquiry I found that a quarter of a mile from their residence there was a pond and that not far away was a family in which one of the members had typhoid fever. All the refuse filtered into the pond and by careful examination the typhoid element was found in water that other people were drinking. It was also found that there was some subterranean area by which the water of the pond got into this spring. The people of that village are now all willing to take advice. As my colleague has said, if short practical articles are published in their papers they will read them and be benefitted.

Dr. W. Lee Secor, of LaGrange, Ill.:

Organization is absolutely necessary if any aggressive work is to be well done.

As an Academy we can discuss this problem *pro* and *con*, but we are able to do little else for organized effort requires time, labor and money. I think that the Academy is not in a position to carry forward a vigorous campaign on its own account, so why not co-operate with others who are working along these same lines?

The American Society for the Advancement of Science has appointed a Committee of One Hundred, the principal purpose of which is to formulate plans and carry them out, for the education of the masses in matters of health. They advocate the formation of a bureau or department at Washington that will do for the people what the Bureau of Agriculture has done for cattle, stock and the products of the soil.

I believe that our co-operation individually and as a body with this society that is thoroughly organized and prepared for a vigorous effort will accomplish far more than any independent move we can make.

Dr. H. Iles McNeil, of Newman, Ill.:

Why would it not be a practical matter for the American Academy of Medicine to reach the county societies through the state societies? For the Academy to deal directly with the county societies would be quite cumbersome.

Dr. Helen C. Putnam, of Providence:

Since it was mentioned I have been thinking about this possibility of co-operation with the Committee of One Hundred. It has my personal co-operation, but how can we as an Academy throw ourselves into the work of the Committee so as to add force and advance our own ideas? Has Dr. Secor some definite suggestion?

Dr. W. Lee Secor, of LaGrange, Ill.:

The Secretary of the Committee of One Hundred is appointing local advisory committees in every community to carry on the local work and aid in the support of the larger committee. The plan that I would suggest is that we individually give our moral and financial support to the local advisory committees in our various communities and possibly seek to become members of these committees, in which capacity we would be better able to serve the Committee of One Hundred.

Dr. Charles McIntire, of Easton, Pa.:

The Secretary wishes to say that the Academy is already in close relation with the Committee of One Hundred. Because of his official position in the Academy, he has been appointed a member of the Authors' League to co-operate with the committee. The Committee of One Hundred is desirous of securing members to its various branches all over the country to create a public sentiment in favor of better administration upon sanitary matters on the part of the general government.

Dr. Leartus Connor, of Detroit:

The American Medical Association publishes a little journal that goes to every counselor in the United States. The object is to put before these counsellors the things by which they can promote the evolution of the county societies. I wish that Dr. Jackson, who knows about this work, would prepare a modification of it for this journal. The object is the same that the organization of county societies was appointed to work out and a little stimulus would result in much good. There never was an idea yet brought before this Academy and put in THE BULLETIN that has not had good results. A large amount of the evolution of the medical profession through the American Medical Association has come through ideas here developed. I wish that the Secretary would some time put in proper form for us the real facts of the case, particularly that pertaining to physicians in their relations to each other.

Dr. Jackson closes:

Comparatively little was said in the Report about the movement for educating the people through the newspapers, because the American Medical Association has this in hand. It has been sufficiently interested to adopt an amendment to its By-laws, and appoint a permanent committee. From the character of the men selected, I think we may expect something of value to be done.

One very valuable suggestion has been made, with reference to reaching the journals of the farmers. These publications do not deserve the criticism, as educational channels, that is made with reference to newspapers in general. They are more generally read and what is in them is more thought about. The Academy has already taken some action looking to co-operation with the Committee of One Hundred. The Secretary has indicated at least one way in which we can come into touch with them.

Dr. Connor's remark as to the American Medical Association having adopted and carried into effect many of the ideas that were first broached in the Academy, has a great deal in it. I remember the first meeting of the Academy that I attended. The subject of laws creating state boards of medical examiners was discussed. The next year, by Fellows of the Academy, it was brought before the American Medical Association, which afterwards adopted a certain form for the law, one that had been decided upon by a committee of this Academy. From that date, about 1883 or '84 we count the era of the establishment of State boards of medical examiners, which has continued to the present time. We do not sufficiently realize the good work done here in the Academy. This work, which goes out through our BULLETIN and through those who attend the meetings, will eventually tell upon the medical profession of this country.

I should like to emphasize the point made in the Report of the importance of the Academy as a scientific society doing original work, conducting original research along these lines, and allowing the results to spread in the medical profession, without making any special effort to promulgate them, other than to put in permanent form a record of this work in our BULLETIN.

REPORT OF THE COMMITTEE TO INVESTIGATE THE TEACHING OF HYGIENE IN PUBLIC SCHOOLS; AND OF THE DELEGATE TO THE SECOND INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.[1]

HELEN C. PUTNAM, M.D., Providence.

The Committee to Investigate the Teaching of Hygiene in Public Schools reports progress; but the fourth section of its investigation,[2] now due, is not yet ready; not because of either indifference or idleness, but because of super-abundance of work in this field.

The Academy is quietly rendering valuable service through the sections of the committee's report already published, as testified by numerous inquiries received from every quarter of America, from England and elsewhere. These publications have been of timely help to various educational institutions and organizations, as to authors, government officials and others.

The latest volume on hygiene[3] published in England refers to this work of the Academy, quoting extensively; and within a few days there have been received from the other side two published addresses in which the Academy's committee is again paid the compliment of quotation.

The chairman, your delegate to the Second International Congress on School Hygiene, during her six months in England, addressed several audiences on the teaching of hygiene in public schools. The interesting discussions following, and the courtesy of leading educational journals in giving the lectures wider circulation, are, together with similar work in this country, among the reasons for continuing the report until completed.

The Congress is an assurance that school hygiene is a pressing problem, meriting earnest consideration from the highest authorities in all governments, equally deserving the closest study of sanitarians and sociologists, of educators and parents. Most of its details are in embryonic or experimental stages. Every honest effort helps the final object—a better civilization—and the Academy's work may justly count as one.

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[1] Presented to the 33rd annual meeting of the American Academy of Medicine, Chicago, May 30, 1908.

[2] Already published in the Bulletin of the American Academy of Medicine: Compilation of existing laws, April, 1904; study of Laman text-books, June, 1905; report of hygiene taught through domestic science and through nature study, April, 1909. Other sections are in preparation.

[3] *Practical Hygiene* for use in schools, by A. Ravenhill, F. R. San. I., E. J. Arnold & Son, Ltd.

Second International Congress on School Hygiene.

There were present at the Congress about 1700 delegates from large and small divisions of Europe, of North and South America, of Asia, Africa, Australia and the islands of the oceans. The official languages were English, French and German.

There were 50 sessions, 250 papers, extensive exhibits of school equipments from many nations, of "systems" of physical training, of English educational methods, from open air schools and vacation care of children, to Oxford, Cambridge and London Universities. It was in the last that our meetings were held, and in the adjoining Imperial Institute and Central Technical College. The *Proceedings*[1] we have not yet received; and the Surgeon-General's Library has not yet been able to obtain a copy of the *Proceedings* of the first Congress, at Nuremberg in 1904.

As you know, England's distinguished physiologist, Sir Lauder Brunton, was president. His scientific and practical attitude toward the questions debated, with his tactful, kindly thoughtfulness and hospitality helped create the spirit of the Congress, ably supported as he was by *aides* whose names you will find in these programs and other documents, the best I can offer the Academy's library in lieu of the *Proceedings*. Sir Lauder's personal guest was Professor Dr. Griesbach, president and inspirer of the epoch-making Congress three years ago. The next is to be in France in 1910.

Those from this country upon the program, besides your delegate, so far as I know in absence of the belated report were: Prof. William H. Burnham, of Clark University; and from New York, Prof. Thomas D. Wood, of Columbia University; Dr. Luther H. Gulick, Director of Physical Training in the Public Schools; and Drs. Thomas Darlington and J. T. Cronin, of the Health Department. There were perhaps fifteen others from the United States attending the whole or a part of the week.

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[1] They can be ordered through Dr. James Kerr, Hon. Gen. Sec., Royal Sanitary Institute, Margaret St. W., London.

Besides the morning and a few afternoon sessions of the 11 sections there were four general meetings at noon. Three distinguished officials, one each in English, French and German, opened the day's topic. The subjects were successively:

(1) Methods for the first and subsequent medical examinations of school children.

(2) School work in its relation to duration of lessons, sequence of subjects, season of the year.

(3) The school and its relation to tuberculosis.

(4) The lighting and ventilation of class rooms.

The president of the section on The School Building and its Equipment was the president of the Royal Institute of British Architects. One sensible generalization was that *any system of ventilation for schools must be supplemented by open windows and fire places*—quite contrary to certain patented systems in this country that some of our school boards put in at great cost, to remove in a few years at further expense. The Board of Education in England rules that the temperature of schoolrooms must be kept between 56° and 60° F.; as much too low as ours is too high.

Perhaps the section of greatest interest was that of Medical and Hygienic Inspection of Schools, Dr. William Osler, Regius Professor of Medicine at Oxford, president. England was just on the point of instituting this inspection having agitated the matter for several years, and since the Congress it has been made compulsory throughout the land. Discussions centered chiefly around such problems as physical defects prevalent in schools; methods of inspection for different grades and objects; medical treatment at school, its social, economic and professional aspects; coöperation of schools, homes, physicians and school nurses; school anthropometry. There seems need of an international commission to unify methods and details of medical inspection of schools, for purposes of compilations and comparisons. Not only eyes, ears, nose, throat and general physique are important details in inspection but teeth and oral sepsis. There was general agreement with the speaker who said that the amount of human misery caused by defective teeth in children is not less than that caused by an average war. Strasburg has a dental hospital for school children.

The section on Inspection together with that on Contagious Diseases, Ill-health, and other Conditions affecting Attendance discussed the lower age limit of school attendance. In England the legally preferred age is five years; but there is local option with the result that 10 per cent. are under five. Financially this is increased expense for what is bad educationally.

Other discussions relating to contagions were on questions of exclusion of individuals or closure of schools; questions of the effect of school inspection upon the prevalence of infectious diseases, upon their mortality, ages of incidence, etc.; also school conditions impairing health, and affecting tuberculosis and heart lesions. How to provide suitable nourishment for children without interference with homes, and whether school inspection is the function of boards of health or of boards of education were other points debated at the Congress.

One section was devoted to The Hygiene of Residential Schools. Medical inspection was advocated to bring up their standard of hygiene to at least that of elementary schools which in some instances is superior at present.

A congressional party visited Eton. You who have done so remember those class-rooms for the youngest boys partly below the ground level, with backless benches; desks and other wood work so hacked and carved by thousands of pocket knives for hundreds of years that they suggest foul and badly mangled sponges; with walls whose ancient odors no amount of recent washes can conceal—"a pen for swine" disgusted German sanitarians muttered. The Eton graduate of 30 years ago who was our host said to me enthusiastically: "You cannot understand England until you understand Eton." And one appreciates his sentiment. But wiser patriotism would find a way to preserve these historic bruises and biographic initials without harming growing generations in the process.

The Hygiene of the Teaching Profession was an important section. Dr. Oldright of the University of Toronto presented statistics from the United States and Canada showing tuberculosis more prevalent among teachers than in any other class. This, however, was denied for France and some other countries.

Special Schools for Feeble-Minded and Exceptional Children, and Special Schools for Blind, Deaf and Dumb Children were the titles of two sections representing a marked trend in education. Finer classification according to physical and mental states means a lessening of machine methods, more individual attention, fewer failures and better successes in citizenship—and for the normal children as well; means consideration of *varying degrees* of deafness, blindness, physical stamina, moral obliquities. Some suggestive topics were "Hospital Schools for Cripples," "Craft Schools for Cripples," "Backward Children," "The Breeding Beds of Mental Degeneracy, and the Treatment of Such," "Reformatory and Industrial Schools."

The section on Physical Education and Training in Personal Hygiene discussed not only formal gymnastics, but laid stress on outdoor games and sports, dancing and the element of pleasure. Of the "systems" the Swedish was considered most physiologic. For Jiu-jitsu, which was illustrated elsewhere by several classes, keen enjoyment, practical usefulness, and training in certain moral and mental excellences were apparently justly claimed.

Military training Sir Lauder Brunton alluded to in his presidential address, stating that it is not an essential factor in creating a warlike spirit as peace lovers claim.

"I doubt," he said, "if one could find three peoples freer from the military spirit than the American settlers who beat our armies a little over a century ago, and the Boers who nearly did the same a few years ago; and the Swiss, who spend more on education and less on military training per head than any nation in Europe; yet they were all trained from childhood to the use of the rifle."

Sir James Crichton-Browne was president of the section on Physiology and Psychology of Educational Methods and Work. Among the many valuable discussions on school fatigue and other phases of child study was a brief report of ten years' work in the paedologic laboratory of the public schools of Antwerp. Perhaps no other city leads Antwerp in school hygiene. They have frequent and thorough attention from school physicians and dentists; school baths and the best control of the sanitation of buildings.

The laboratory report given by Dr. M. C. Schuyten briefly summarized is:

1. The child entering ordinary schools undergoes physical and psychic depression.

2. Growth of muscular power is variable during the school year, its *pure* variability depending on the season.

3. Voluntary attention decreases from January to July. It increases from July to December.

4. Fatigue increases from the beginning to the end of the school year *without* valuable recovery of energy in the short holidays.

5. Over 75 per cent. of boys and girls fail to follow in a regular manner the succession of classes prescribed by authorities according to their age and presumed intellectual ability. The greater part of this 75 per cent. of failure is among children coming from the kindergarten.

All this is due to insufficient knowledge and application of the physiologic and psychologic laws of childhood.

Healthy mindedness as the essential object of education was defined as the condition where the intellectual faculties are in a vigorous condition and strongly predisposed to exercise their proper functions, with a normal equilibrium between animal and human passions and impulses.

Most of your delegate's time was given to the section on Instruction in Hygiene for Teachers and Scholars. There was a fairly general sentiment that memorizing hygienic details from books and instructors was the poorest possible method, although many believing this still use the method of books and talks, others supplementary not being understood.

The better way that should supplement books with a larger amount of personal observation and practice was upheld on one hand by certain official theorists who contended that attention directed by instructors as occasions arise to details of school and personal hygiene was enough for young people, there being no need of formal drill or of studying scientific reasons.

On the other hand it was maintained by certain educators and others in Great Britain, New Zealand and the United States that without definite time and methods for practice in hygienic details including some not of the schoolroom, although common outside, the subject is neglected and superficial; and without intelligence as to the scientific basis these details are a bore in school and are forgotten in after-life.

It was noteworthy to find at the Congress that the most frequently quoted and approved feature of American schools was their mandatory instruction in the physiology and hygiene of temperance. It is the one detail of the curriculum in which foreign schools are paying ours the sincerest of all compliments—imitation. Perhaps to Europeans—especially English—co-education is the next interesting feature of our schools.

The difficulties, possibilities and imperative necessity of school instruction in the physiology and hygiene of sex was the subject of one session at which German, French and English physicians and instructors spoke.

One of the problems common to all sections was homes and parental incapacities. The feeding of children, cleanliness and clothing, neglect of school physicians' advice, moral—or, rather, immoral training at home were discussed and the harm to childhood from mismanagement of municipalities.

A section was devoted to Out-of-School Hygiene; vacation care of children by the State, playgrounds, the utilization of our expensive school-buildings for out of school uses for the neighborhood and its children, summer camps, and open air schools all the year around.

One impression at the Congress was that official theorists in proportion to practical teachers were too much in evidence. Teachers were "conspicuous by their absence;" but they possess the first-hand evidence, experience, opinions on many points disputed in some of the sections. I was often reminded of Sir James Paget's sententious "We love to hold by what we think, for what we think has in it more of ourselves than what we know."

Were teachers absent because their attendance was not encouraged and facilitated? Or are those expected to teach hygiene not capable of contributing to our knowledge in these discussions? Perhaps it may be counted one more evidence that public schools and society are and have been too much out of touch; with barriers of "politics," "professional" jealousies and ignorance between them which congresses such as this should be utilized to remove.

The chief insistence of the several resolutions at the final general session was for much better work by normal institutions in training teachers of hygiene.

DISCUSSION.

Dr. Philip Zenner, of Cincinnati:

I do not know that what I am about to say properly fits in here. But the Doctor referred to the teaching of sexual physiology and hygiene in the school, and what I have to say pertains to that. I wish to report an experiment which took place in Cincinnati during the past winter. At the beginning of the school year one of the teachers in a poor district of the city, a district in which lived black and white and in which were saloons and factories with home environment of the worst character, asked the superintendent if he would not have a lady physician speak to her girls, for whom she had much concern, on the subject of sexual physiology and hygiene. The superintendent spoke to me upon the subject and I managed to interest Dr. Nora Crotty of our city, who was not only an able physician but who had been a schoolteacher before studying medicine. She gave a series of fifteen talks on such subjects as cleanliness, character, the menses, the anatomy of the pelvic organs, reproduction in plant and animal life, infectious diseases, womanhood, motherhood, and the like. The children she addressed were in the two grades below the high school, their ages varying from twelve to sixteen. Though I at first declined to do so, fearing that a class talk to boys of that age might do more harm than good, I was led to give the class several general talks, and finally gave the boys a mild "sex talk."

A word as to the result—the teachers say that the character of their pupils so far as they can see is altogether different. There is a very different moral tone in the school. The girls show a respect for themselves they never showed before. Both boys and girls have entered into new and confidential relations with their teachers. Before, impure literature was circulated very freely around the class. Now, that has ceased. A new boy entering the school tried to circulate some such literature and the other boys would have nothing to do with him. I happened to meet the teacher recently, and she told me of two incidents; one, that the girls had seen some literature of this kind circulated in the yard and had gone to the trouble of meeting her away from the school to tell her of this and to suggest what might be done. A number of mothers both black and white had come to the school to express their appreciation of what had been done for their children. One man came, also, saying that his wife had died, that he had been very much concerned about his girl, that all efforts of his and of his friends had been futile, but that since the institution of these talks she had become a very different girl. He went to the trouble to go to the school to thank the teacher personally for what had been done. Such acts show how much good the teaching did in this particular instance.

Dr. Horace David Arnold, of Boston:

It may be of interest to know that Massachusetts has passed a law requiring that instruction be given to school children in relation to tuberculosis, and that the secretary of the Board of Education of the State has recently called together a committee of physicians for advice in carrying out that work. The general plan is to have some clear general instruction furnished to the teachers and to have the teachers give the instruction to the pupils. This instruction will deal especially with hygiene, fresh air, etc., and the general relation of tuberculosis to the people at large. The instruction will be graded according to the capacity of the school children.

Dr. Putnam closes:

The matter of instruction in the physiology and hygiene of sex, through the efforts of the American Society of Sanitary and Moral Prophylaxis and of its branches, is to be quite prominent I think in many of our large cities. A few days ago I spoke in the College of Physicians in Philadelphia to a large audience of teachers, physicians and others interested. There is in that city very earnest effort in furthering the work. I found there a most promising enterprise. The school board has appointed a graduate of Bryn Mawr, who in her undergraduate work specialized in biology, director of school gardens in Philadelphia, with assistants almost all of whom are college women, and trained in biology. Scattered around in distant parts of the city are are a number of school gardens, usually vacant lots. Each child has its own little plot, perhaps 4 x10 feet, in the school garden and these teachers approach the subject from a fundamental biologic view point, studying not only reproduction and other functions in vegetable life, but also in animal life as illustrated by insects in the gardens. These children of the elementary grades thus grasp the vital fact of life that the two objects of every living being are to perfect itself and reproduce its kind. They do not direct their attention especially to the subject of human reproduction. No general teacher in our public schools can do this work without elementary biology. I think any Fellow of the Academy would do well to encourage the school garden idea in our public schools. It is in wise hands an indirect way of getting at fundamental ideas of life without stirring up wrong in the minds of children and without antagonizing parents.

In regard to the law of Massachusetts concerning teaching children in the public schools concerning tuberculosis, possibly the method is good; but a very much better thing is to have, through competent regular instructors, the knowledge given that *many* diseases are due to microorganisms, and to have *practical training* in the details of personal, household and municipal cleanliness and prevention of contagions.

REPORT OF THE COMMITTEE TO FORMULATE THE RESULTS OF THE CONFERENCE WITH COLLEGES.[1]

The Committee held a meeting immediately after the adjournment of the Conference[2] when it was determined that each member should formulate his individual opinion of the results of the conference and send them to the chairman. These were not received sufficiently long before the meeting of the Academy to be merged into a single report, so that this report gives the individual conclusions of the members of the committee.

I.

OF THE CHAIRMAN, DR. JOHN L. HEFFRON, OF SYRACUSE.

I think there is no question, however, but that great good can come from the meeting together of teachers in medical schools and in the colleges. There has been for a long time the feeling on the part of teachers in colleges that the cultural value of medical study is not equal to that of the courses which are offered by the colleges. There is no question but what this was true in former times when medical education was conducted by physicians as a private venture and all teachers were unskilled in the methods of pedagogy. But that it is true now when the work of the first two years in a college of medicine is altogether pure science and is taught by trained men who devote their entire time to teaching, I do not believe. I believe that all who have carefully observed the results of the modern methods in medical education will unanimously agree that the culture obtained from such a course is equal to or greater than that which results from the pursuit of such studies as the average student elects for himself to pursue in the junior and senior years of his course. I believe that a greater part of the misunderstanding on the part of those who are teaching in colleges of Liberal Arts is due to the fact that they have no comprehension as yet of the great change which medical education has undergone.

Every college offers as electives after the sophomore year all of the subjects which are required of the student of medicine during his first two years excepting human anatomy and pathology. There seems to me no question but what these fundamental sciences are as well taught in colleges of the first class as they are taught in colleges of medicine and I would go further and say that the fundamental sciences are taught in a broader and more liberal spirit in the colleges and that this method of teaching is what is aimed at in the best colleges of medicine during the first two years. There seems to me no reason why any college could not permit students who desire to study medicine to elect for their junior and senior years the subjects which are required by a college of medicine in their first two years, and that at the end of the four years' course at such an institution the baccalaureate degree could be granted. A student coming with that degree and a certificate showing that he has pursued as electives in the junior and senior years the studies required by the College of Medicine in the first two years, could be admitted to the junior year when purely clinical work begins.

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[1] Presented to the American Academy of Medicine at its 33d Annual Session, Chicago, May 30, 1908.

[2] At Pittsburgh, January 3, 1908.

It was objected that this counted two years twice. This objection is not valid because it is certain that the work is required of the student but once and that his admission to the junior year of the College of Medicine is equivalent to saying that his preparation on the part of the college has been so good that he can complete his medical education in two years. In order to make such an arrangement possible in this country one of two things must be done in order that the laws enacted by the various states concerning the studying of medicine shall be fulfilled. Either universities and colleges not having a medical department, permitting students to elect for their junior and senior years the subjects required for the first two years in a college of medicine, must have their charters so changed as to be able to grant the degree of M.D., or the laws of the state must be so changed as to make it possible for a student presenting a diploma of a recognized college and a certificate showing that he has satisfactorily accomplished the work required in the first two years of medical education, to be admitted to the junior year of a college of medicine. Of these two alternatives, the latter would seem to be more feasible but, as a matter of fact, several of the Western

Universities, including Wisconsin, have adopted the first-mentioned method.

Since the conference I have had interviews with the heads of several of the best colleges in our country and in many instances obtained the hearty endorsement of the plan outlined.

In universities having a medical department, it would, of course, be natural to have the first two years carried out in the College of Liberal Arts. Such is not now the fact in many of the universities but I believe that that is the trend of modern opinion. By such an arrangement as is outlined above it would seem to me that the greatest number of medical students would be properly cared for. It would insure competent preparation for the entrance of medical work and it would give a cultural value to the course which could not be surpassed by any course which a student could elect for himself.

Besides this large body of aspirants to medical honors there would remain the necessity of providing for two more classes. The state of development of our country is such that the services of a man of good native ability but limited both as to time and to means will be required in many communities. For such there should be the possibility of entering upon the study of medicine with a preparation less exacting than the one previously indicated. Schools for the education of such men would be, in a certain sense, trade schools, but as was recently expressed by Dean Egbert, "such schools should have no opprobium attached to them."

There is a third class of men who are ambitious to pursue the science of medicine to the utmost. Such men have ability, time and means. For them no course of preparation will seem too severe and no course of medical education too exacting. Such men have always first obtained the bachelor's degree in a first-class college and have pursued their medical education in the first schools and have complemented it by study abroad.

There is no question but what the curriculum in medical colleges will require many changes. During the last two years the teaching will become more and more clinical and will be conducted in teaching hospitals having every laboratory facility with small groups of students. Undoubtedly many elective courses will be offered in the future curriculum.

II.

OF DR. JOSEPH H. RAYMOND, OF BROOKLYN.

1. That many of the colleges do as good work, and some better work, in physics, chemistry and biology as the medical schools, and that this would be encouraged by admitting men who have taken such courses to advanced standing.

2. That the present medical curriculum is a heterogeneous mixture which has grown up without plan, and should be remodeled completely.

3. That while a college education fits a man better for his profession than any other, at the present time this country is not in a position to make it obligatory. If insisted on, doctors will gravitate to the cities and leave small communities unprovided with medical help; the man who spent his time and money in obtaining the college education will not be satisfied with the income derivable from a small country practice, nor will he be willing to settle down in a place where the opportunities for satisfying his culture-taste are few, or absent.

4. That by reason of this demand, medical schools which meet it "should have no opprobrium attached to them."

5. That the legal requirement of four years in a medical college is arbitrary and unAmerican; that a man who demonstrates by his knowledge that he has the "goods" should be allowed to benefit by them. The test of the knowledge, however, should be thorough and *practical* and not a simple *written test.*

III.

OF REV. A. B. CHURCH, PRESIDENT OF BUCHTEL COLLEGE, AKRON, O.

1. By bringing together workers in two kindred but different fields of work, a closer acquaintance was made, some misapprehensions as to purposes and methods were cleared up, and a more intelligent understanding was gained as to what should be accepted now and what ought to be attained in the future along the line of Education in Medicine.

2. In suggesting minimum requirements for admission to the practice of medicine the competency of the general practitioner must be kept in mind and the needs of the general public taken into consideration.

3. A minimum requirement for admission to practise should be kept as low and made as general as it is safe to the public, and beyond that all the inducements possible be held out for more thorough preparation, for specialization and research in the science and practice.

4. It does not as yet seem wise, nor just to the general public and to the medical student of good native ability but limited means, to require a baccalaureate degree as a prerequisite to entering a medical school.

5. As a broad culture and thorough scholarship is highly desirable, if not necessary, in the physician, some better arrangement than now exists ought to be made whereby the medical student can avail himself of the Liberal Arts as well as the medical training, and whereby both courses can maintain their characteristic identity and high standing.

6. The most practical arrangement suggested at present is two years' work in the Liberal Arts courses or its equivalent, and then the medical course with only the medical degree, or three years in the Liberal Arts courses and four in the medical courses with both the baccalaureate and the medical degrees.

In the latter case, both the Liberal Arts and the Medical College would have to concede something from their present requirements, and adjust courses so as to avoid duplication. This could well be done in Chemistry, Physics, Biology, Zoology, Physiology, Neurology, Embryology, and Bacteriology.

IV.

OF PROFESSOR ROBERT W. BLAKE, LEHIGH UNIVERSITY, SOUTH BETHLEHEM, PA.

In all attempts to formulate the results of the conference, it seemed to me that the relation of the college to the medical school remained just what it appeared to me before; that is, the results, if any, were negative rather than positive and for this I frankly confess a disappointment. I had hoped for some definite statement of the studies which the American Academy of Medicine considered should enter into the medical student's college course and some plan which the Academy would provide for the shortening of the college student's medical course, or the medical student's college course and whether the Academy believed that what separately represents eight years could be shortened to six, as proposed in a number of plans.

Perhaps the chief result was to shape the problems for another conference, should there be one. The one proposition to which all who expressed opinion gave assent was that a college training was a very desirable thing for a medical student. Personally, I am inclined to the view of President Moffatt, that there is no real need for the shortening of the two courses, and that the shortening, if it takes place, should be in the medical school by giving credit for certain definite work done in college. Legal obstacles seem to make this impossible in some of the states, so that the only method for the detached college to combine the two courses is that offered by the Cornell Medical School. This is a method which colleges, if they adopt it at all, will adopt with reluctance and under pressure of competition, or for some other extraneous reason. Further, I do not believe it fair to either college or medical course to compass the work into six years.

If I may venture to sum up what seem to me to be the results, they would be as follows:

1. That a college education is desirable for a medical student, but it is not desirable that all medical colleges make it the standard for admission.

2. That it is desirable, in view of the advanced age at which a physician who goes through college may hope to become self-supporting, to shorten his course of study.

3. This shortening may be accomplished:

a. By giving credit in the medical school for work done in college, legally impossible in some states.

b. By giving credit in college for work done in the medical school. (The Cornell Plan). As yet experimental.

c. By saving time in school work so that a boy may enter college at an earlier age—say sixteen or seventeen, instead of eighteen or nineteen.

4. The conference recognized the difficulties in the way of adopting any of these methods of shortening the course, and came to no conclusion on the subject.

REPORT OF DELEGATE TO THE CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.[1]

CHARLES S. SHELDON, A.M., M.D., Madison, Wis., Delegate.

Your delegate attended the 4th Annual Conference of the Council on Medical Education of the American Medical Association, at Chicago, April 13th. Besides the members of the Council 88 delegates were present, representing 21 state examining boards, 21 state medical societies, 3 departments of the Government service, 2 confederations of examining boards, 2 college associations and 2 national medical associations, as well as 30 medical and liberal arts colleges.

The conference was called to order at 10 A.M. and continued during the afternoon. The plan of holding such a conference in the interests of medical education is highly commendable and is the outgrowth of the general plan of organization of the Medical Profession begun five or six years ago. This is only the 4th conference, but the effect of these meetings in stimulating efforts to elevate the standards of medical education in this country is already marked. With each annual conference, and with plans and methods more fully developed, their usefulness will be more and more apparent.

The first exercise of the conference was the address of the chairman of the Council, Dr. Arthur D. Bevan. He stated that the body of delegates, called together from all parts of the Union, and representing the agents which are most interested and most influential in medical education, had no legal powers; that it was not even an organized body—that it was an informal conference, met to discuss fully and freely the existing conditions of American medical education, and to suggest plans and methods which may lead to improved standards. That the value of such a conference lay in the interchange of ideas between men representing the various states, associations, schools and services and the wide publicity which can be given to the views of these men who have given much time and thought to the problems of medical education. That the Council on Medical Education was the instrument of the American Medical Association in matters pertaining to medical education—and its functions those of a national bureau of information, seeking to collect the facts in regard to medical education in this country and abroad and to give publicity to these facts.

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[1] Presented to the American Academy of Medicine at its 33d annual meeting, Chicago, May 30, 1908.

At the first annual conference the important questions discussed were those of preliminary education, the medical curriculum, and the relation of the medical school to schools of liberal arts. As the result of this conference the ideal and recommended standards were offered and adopted by the American Medical Association at Portland, Oregon.

At the second conference a report of the standing of medical schools, based on the percentage of failures of their graduates before state boards, was presented, the relation of the state boards and state medical societies to medical education was discussed, and the discussion of preliminary education and medical curriculum was continued.

At the conference last year a report was given showing the conditions existing in the 161 medical colleges of this country, based on personal inspection. On the basis of this inspection 82 schools were found to be of acceptable grade, and 32 were regarded as worthless, leaving 47 which were regarded as susceptible of improvements which would bring them into the acceptable classes. The state boards were notified of these findings.

A further report of the standing of the schools, based on the percentage of failures before the state boards, was made last year, showing a very considerable improvement and proving the value of the publicity of these facts.

Special reports of committees on admission to advanced standing of college graduates, and on preliminary education were made and the subjects of inspection of preliminary credentials by an officer of the state examining board, and methods of conducting state board examinations were discussed.

During the past year the work of the Council has been continued along the same lines of attempting to ascertain and collect the facts in regard to medical education and present these to the state boards and the profession.

The chairman suggested the basic principles of a model medical practise act, which should be agreed upon and adopted in each state—these basic principles to include (*a*) a single licensing board made up of members irrespective of schools, the only requirement being that the men should be qualified practitioners of modern scientific medicine. (*b*) The board should have the power to determine the matter of preliminary education to the medical curriculum and should have the power to refuse recognition to disreputable medical schools. (*c*) The preliminary education should be a standard 4-year high school education, to which should be added in each state as soon as conditions warrant, a thorough training in physics, chemistry and biology, including laboratory work. (*d*) A 4-year medical curriculum should be required, each annual session consisting of 30 weeks, 30 hours a week: the first 2 years to be spent in well equipped laboratories of anatomy, physiology, bacteriology, pathology and pharmacology officered by trained teachers; the second 2 years devoted to medicine, surgery, obstetrics and the specialties, largely in clinical work, in well equipped laboratories, dispensaries and hospitals. (*e*) When conditions warrant, a compulsory year as a hospital interne. (*f*) The state board of each state should inspect its schools and refuse recognition to those which are not teaching scientific medicine.

He also recommended that there should be a single association of state licensing boards organized, which should consist of delegates who are active members of state boards, representing every state in the Union, since such an association would be of immense service in weeding out disreputable schools—in handling the question of reciprocity, etc.

He then passed in review each state separately, noting how nearly they have attained the foregoing conditions and classifying the medical colleges in each. This review, of course, discovered many defects in laws and a large number of non-acceptable schools. In view of the progress in the last few years, however, the prospects for securing higher standards in medical education are very encouraging. Eleven medical colleges already require for admission 2 or more years of work in a college of liberal arts, while 15 more have announced their intention of adopting this standard by 1910—making 26 which will require 2 years or more of academic work by 1910—27 other medical schools either already require 1 year of academic work or will do so by 1910—making 53 schools requiring one of more years of academic work by 1910.

The Secretary of the Council, Dr. N. P. Colwell, presented a comparison of the requirements of medical education in other countries as compared with the United States with the following summary:

a. There are 335 medical colleges in the civilized world of which the United States has 161—or 48 per cent.

b. All the medical schools of Europe are medical faculties of universities, under their direct control—there being no proprietary schools, as most of ours are.

c. The United States is the only leading nation which does not require a thorough preliminary training in physics, chemistry, and biology for all matriculants in medical colleges.

d. Comparison shows that medical education here is deficient both as regards preliminary requirements in general and the length of the medical course, the length of the course of most European countries agreeing with the ideal standard adopted by the American Medical Association at Portland in 1905.

e. Primary and secondary education in a majority of European countries may be finished after 12 years of study—the time required to complete the public school courses in the United States—but which is equivalent to the standard high school course of the United States plus 2 years of work in a University.

Dr. Colwell also stated that, as a result of inspections made by the Council during the past year—8 more colleges were rated below 50%—making the number of medical colleges thus listed as unsatisfactory—39.

Also, that 32 reputable medical colleges offer a combined course whereby the student may obtain the baccalaureate and medical degrees in 6 years. That the examining boards of Minnesota and North Dakota—beginning in 1912—will require preliminary education equal to 2 years of university work. Colorado, Connecticut and North Dakota will require the equivalent of one year.

Dr. J. H. Long, of Chicago, then submitted the report of the Committee on Preliminary Medical Education. The report concerned mainly the proposed requirement of a preliminary year in physics, chemistry and biology for matriculation in medical schools. The drift of opinion both in the committee and in the discussion was that what was described in the report of last year as a preliminary year of college work must develop in the near future into two solid years of such preparation.

Dr. Vaughan submitted a report on "What should constitute a Medical College in good standing."

Dr. B. D. Harrison, Secretary of the Michigan State Board of Registration, submitted a report on the essentials of a model practise act.

Drs. Bennett of New Jersey, Councilman of Harvard, Westbrook of Minnesota, and Witherspoon of Tennessee discussed "The Character of the State Licensing Examination," etc.

Drs. Ravogli, of Cincinnati, and Van Meter, of Denver, discussed the question of "Practical Ideas Concerning Reciprocity."

Advanced ground was taken in all these reports and the discussions which followed seemed to show that the profession is alive to these very practical and important questions.

Under present conditions, the solution of many of these problems now presenting themselves will be slow and difficult, but the trend is unmistakably upward and onward, and the remarkable progress made during the last ten years is a good indication of what we may confidently expect in the future. The gathering was thoroughly representative and included many of the very best men of the profession in the whole country. These conferences emphasize the necessity of unity of action in regard to medical education between medical colleges, state boards of examiners and the medical profession, and such a result can be secured by no better means than by the representatives of these bodies meeting together to discuss such questions as were presented at the conference.

DISCUSSION.

Dr. Thomas H. Shastid, of Marion, Ill.:

I desire to speak only with regard to two points which, though not mentioned, I believe to be important in the extreme. The first relates to the matter of actual attendance—that is, recorded attendance—in our medical schools. What is the use of raising the time-requirement, if the actual attendance is not seen to? I have personal knowledge of two instances of gross inattention on the part of college authorities to the actual attendance of their students. The first was that of a young man who was teaching school. He went to one of our large cities, and matriculated in a large medical college. He at once returned home and assumed the teaching of school. In the following spring he took his medical examination. The next year he went through the same procedure. The third year, I was informed and believe, he actually attended the college. Then he received his diploma and degree, and is now practising in Illinois. He had only one year of attendance. What good did the time-requirement do in his case? The second instance was that of an osteopathic physician practising in Illinois who decided that he would become a regular practitioner. He took one year of study on medical subjects in a regular medical school, and, at the close of that one year of attendance, was given his medical degree.

The other matter relates to the establishment of personal identity for the avoidance of false personation at examinations both in medical colleges and before state examining boards. I believe (without having taken pains to inform myself accurately) that little effort is taken to avoid such personation. It has indeed been suggested that photographs of applicants should be filed. But this is just about as worthless as anything can be, for photographs often do not look like their subjects. Not only that, but we all change; we get old and fat or old and thin, we "turn out" whiskers or cut them off, and we change in many ways, even in our expressions. We have all had the experience of meeting a man after five or ten years and failing to recognize him. It is a little singular that the absolutely infallible method of establishing personal identity by means of finger-tip impressions has never been adopted. And not only is this method infallible, but it is simple and cheap: it takes but a moment and costs nothing. Whenever a man matriculates he should be required to record in the college books not only his signature but also the impression of his ten fingers, and then every time he takes an examination he should be required to do the same thing over. Then a professor could tell who wrote the examination book, without so much as raising perplexing questions of handwriting. All appearing before State Boards should have to do the same thing. These impressions should be sent for verification to the medical college from which the applicant alleges that he graduated. False personation would thus be barred forever. As I have said, the fingerprint method is simple, inexpensive, infallible. There is only one chance in sixty-four thousand millions of two persons producing the same finger-tip impressions.

The Bertillon System is good, but is very troublesome, and not so trustworthy as the method of finger-tips. Nothing ever alters a man's finger-tips, except cicatrization or amputation.

Dr. L. Connor, of Detroit:

As the profession agrees, there are more doctors than needed. Why not have new ones better? All advocate a certain laboratory training and that the school should furnish it, withholding the degree from those who do not secure it. The laboratory training given by treating a patient and carrying the responsibility of the same is the culmination of all other laboratory training. It is unfortunate for all parties that one may begin the practice of medicine who has not treated patients as an interne in a hospital for at least a year. Especially should he make examinations of cases and follow that to the end. There are lots of hospitals that do no teaching and there is no reason to believe that they are insufficient to supply that sort of training to every boy who ought to be a doctor, and every school unprepared to supply hospital facilities ought to go out of business. We should insist that no diploma be given without such training.

Dr. John H. Tressel, of Alliance, O.:

My understanding of the position of the Academy of Medicine is to elevate the standard of medicine. I think if the Report were followed out, it would tend to lower the course. When we had to spend four years in the literary college and then read medicine three years and spend two years in the medical college, it would seem that we were better prepared than to-day when it is proposed to do that same work in six years and be given both degrees. I do not see how that is elevating the standard of medical education. I feel sorry to speak of an instance of which I have knowledge of a young man who went into a doctor's office and read for about six months. He took a notion that he wanted to attend lectures, and attended one course. He intimated to the faculty of this college that he would take another course and graduate. When told that he must go further than that, he took his certificate of one course of attendance and went into another state and in eighteen months from the time he started to read medicine, he came out with a full fledged degree. This is a matter that has been too largely overlooked. Students will take their certificates of attendance from one college and go to another, and many colleges look to the money more than to the medical attainments of the student. I hope that the American Academy of Medicine will not take the initiative to lower the standard. If sometime ago it took men eight years to complete their literary and medical education, why should it take only six years at the present time? Would this really elevate the standard? I fear not.

Dr. Emma B. Culbertson, of Boston:

I should like to endorse Dr. Connor's proposition of having a man serve in à hospital before receiving his diploma. We have in the New England Hospital in Boston 8 interneships to which we receive graduates from colleges all over America and among these have been Johns Hopkins graduates. Many were women entitled to interneship in the Johns Hopkins Hospital but who preferred the Woman's Hospital because of the practical experience gained. They have excellent laboratory training at the Johns Hopkins Medical School, but little instruction upon how to relieve suffering, and they go out with the most infantile ignorance of materia medica. They have to begin to learn their therapeutics after coming to us. I think we owe Dr. Osler a large debt for his great work. We also owe to him a great injury to the profession in the unfortunate mental attitude of so many young practitioners because of his therapeutic nihilism. It is this which has given room to the great fallacies of Christian science and the many other isms.

Dr. L. Harrison Mettler, of Chicago:

This is a large subject and with so many phases that one almost hesitates to touch upon any one. I rise merely to suggest that there is an important side to this question which has not yet been dwelt upon. We have been talking a great deal about giving a magnificent new rising standard to the college. We have tried to bring pressure to bear through state boards, through legal enactments, the elevation of public sentiment and the regulation of the period to attendance and the character of the curriculun, etc., and yet in all of these efforts so far as they go, little or nothing has been done toward raising the qualifications of the teacher. I wish that we might sometime have a discussion upon this theme to see who has the authority or ought to have to see that this man or that man is the best for a certain chair in the medical faculty and the best prepared to teach a certain subject. We all know how true it is that in some small colleges there are most brilliant teachers and that in some larger institutions there are those that are anything but brilliant. Teaching is a gift that a man is born to. A class of students will either fail or succeed largely according to the powers of the teacher. In its last analysis the position of the school resolves itself into the character and the quality of the faculty. Some men are splendid clinical teachers but dismal failures as didactic teachers. Forces are too often brought to bear injuriously where faculties appoint themselves, or their appointments are made frequently by means not at all desirable. The student then has to do the best he can. This is a most important matter and one concerning which, it seems to me, we should stir up a strong sentiment.

In Germany they have almost solved the problem. There a certain length of time is required for a man to go through his medical course. The whole university scheme is under one head, the chancellor. The student goes from school to school and gets a better training and the system works back upon the teacher and forces him to do his best. It is because of the University Plan in Germany that we secure there some of our best instructors. There it is possible for a student to pick out the men who are better teachers for his instructors.

Dr. Edwin B. Harvey, of Boston:

If I understand Dr. Connor, his contention is that students should not be registered nor admitted to practise until they shall have served one year in a hospital. That, Mr. President, sounds well; but in what manner can we reach such a result even if it be a desirable one? What machinery will Dr. Connor put into operation which shall require graduates to spend a year in a hospital as internes before coming before an examining board? I trust he will enlighten us on this point.

Dr. L. Connor, of Detroit:

It is easier to ask a question than to answer, to see clearly needs than to educate the people. If Dr. Mettler's idea was carried out, it would be a little mite easier and if the teachers could refrain from throwing upon the world an individual unfitted for the practice of medicine, the thing could be done.

Dr. Winfield S. Hall, of Chicago:

There is no question that the power of choice on the part of German students between the courses given in the university has exactly the influence that Dr. Mettler brought out. These universities are all creatures of the state and credentials of one pass current in all the others. Here we have universities under private endowments more or less rivals of each other, one hesitating sometimes about accepting credentials from another. That is a condition of our educational system which does not lend itself to a solution of the difficulty. I do not believe that in the near future we will reach such a perfection of organization that a man may go freely from one institution to another receiving due credit.

One plan which is working out well is that in vogue in certain large metropolitan medical schools, each of which has several hospitals. In these hospitals there are clinics held by assistant clinical professors. These clinics are more or less optional and the student naturally goes to the teacher who in his estimation gives him the best clinic. It does not take many months for the students to find out where he gains the most.

The question which Dr. Harvey asked has not been answered. I believe there is an answer to it. It seems to me that the plan might be brought about by the requirement on the part of licensure boards that *every candidate*, before he is eligible to practise medicine in the different states, *shall present not only his medical degree but also a certificate or diploma from a hospital* stating that he had served in the capacity of interne for a period of one year. That I believe would settle the question. One class of one of the metropolitan medical schools has already placed over one hundred men in good hospitals this year. You will easily see that every member of any graduating class of reasonable size can be given hospital positions. If the men do not get positions the first year, they surely can the second.

Dr. Helen C. Putman, of Providence:

I should like to ask whether it is the opinion of the Academy that the two degrees in medicine which they have in England would be of any service in this problem. They have, as we know, the degree of Bachelor of Medicine at graduation and Doctor of Medicine after a sufficient number of years and compliance with certain requirements. I like the effect on the young doctors after their graduation. They have something definite and scientific to work for while starting in practice.

Dr. E. B. Harvey, of Boston:

Dr. Hall's reply to the question I asked Dr. Connor a moment ago, does not cover my contention fully. In Massachusetts, for instance, we graduate about a hundred and fifty medical students every year. We have hospital accommodations for internes for less than fifty. How shall we provide for the balance? We cannot send them to hospitals in other states, for the conditions there are the same as in Massachusetts. The medical schools in Chicago are graduating every year a much larger number than they can place in the hospitals of the city or state. If state boards should not be allowed to register a graduate and license him to practise until he shall have had a year's experience in a hospital, then must we not have more hospitals and more sick people to fill them than we have at present in order to multiply opportunities for interne service, if such service is required as a prerequisite to registration? If so, is the proposition a practical one?

Dr. Winfield S. Hall, of Chicago:

As a preliminary step to such an arrangement we should have to prevail upon the hospital staffs to shorten the term of interneship from two years to one year. That would double the number of men getting hospital experience. It might be difficult to bring that about for the reason that the hospitals have recently changed the period of interneship from one year to two. In order to get more for the expenditure, they are very glad to get the more effective service of the interne during the second year in return for board and room rather than to bring in a new man. The second year of service is really a burden to many of the young medical candidates taking this service. Many a young man is able to earn an interneship but not able to spend two of the best years of his life in getting what he feels he should get in a sufficient measure in one year. Many thoroughly qualified men go to the smaller hospitals because of the one year's course with the result that the small hospitals are getting many of our very best men. I believe it would not be difficult to bring pressure to bear upon the large hospitals to reduce the interneship to one year. This would increase by fifty per cent. the number of men receiving this experience.

Dr. L. Connor, of Detroit:

I don't think the State Board of Medical Examiners would ever make any such requirement unless they were backed up by public opinion as they are the representatives of the state.

I yet fail to see why nurses are taken, as green, untutored girls into a hospital, given their board, taught for nothing and paid a salary, while a student graduate going into a hospital, is only given his food, lodging and washing. Why he isn't paid a modest sum for his living expenses has not been found out. The sentiment is everywhere present that the doctor in all grades of his career is to work for nothing and board himself. I think there is a chance for a modification of public sentiment so that these young internes shall be able to spend a reasonable time in getting that training which is absolutely necessary.

Dr. Hall said that many bright young men did not feel that they could take two of the best years of their life for the interneship. Many of these students do not realize its value.

Dr. W. C. Jones, of Chicago:

There is another way also by which a larger percentage of the graduates of medical schools might be enabled to obtain hospital interneships, namely, by inducing or enabling hospitals to employ a larger number of internes, for in nearly all of these institutions, there is plenty of work for several more house doctors than the number actually serving. For example, in a certain hospital with which I am well acquainted in Chicago, nine internes are employed, while there is sufficient work to keep twelve men busy, if everything were done as completely and as scientifically as it ought to be; but nine internes by working long hours and in a hurried manner, are able to accomplish the bare necessities. So the hospital gets along with the smaller number, because of the extra expense which would be entailed by keeping the larger number. Thus, in a word, by increasing arbitrarily the number of internes, twenty to forty per cent. more of the members of the graduating classes of many of our medical schools could be provided with interneships.

Dr. Emma B. Culbertson, of Boston:

I think the difficulty in the small towns is because of undue competition. One doctor steals another doctor's patients. It seems to me that we do not want more physicians, but fewer with a higher standard and higher fees; and we will get higher fees in accordance with the law of supply and demand.

Dr. Connor spoke against nurses being paid while learning. The conditions are quite different from those surrounding the doctor and it seems to me only right that they should be paid for their exhausting labor in hospitals. I observe that it is very difficult to get men to do that hard work in the hospitals. Moreover, the *working life* of the nurse is short. She is put on the shelf at an age when the physician is reaping his highest financial rewards.

Dr. T. H. Shastid, of Marion, Ill.:

I was struck by the remark of one of the speakers that, with fewer physicians, we could not supply the demand for doctors. In a town which I know —a town of twenty-five hundred people—there are eighteen doctors, two osteopaths, and a Christian scientist. If Massachusetts runs short, it can send to towns like these in Illinois, and get as many doctors as it needs—provided, of course, it will pay the poor fellows' traveling expenses.

Dr. Charles McIntire, of Easton:

We have gone far afield in our discussion. A great many things have been advanced but almost everything except the topics definitely suggested in papers has been discussed. This question of medical education is a very broad one, as stated in one of the reports and shows its scope in the number of subjects talked about when we start to discuss it. It also shows the width of the subjects by the associations that are paying attention to it. You have heard of the work of the Council of Education of the American Medical Association. It is doing a work that can be done by no other association as well as it is doing it. You also know the work of the Association of American Medical Colleges and there again is work that cannot be done by the Association Council on Medical Education. The Confederation of State Medical Examining Boards and the Confederation of Reciprocal Medical Examining Boards discuss these questions, each presenting them from their own standpoint. The question arises, Why should the Academy of Medicine attempt work in these lines? It is because there is a line of research, a line of discussion, a line of effort for good which the Academy can undertake which none of the other associations can undertake. Dr. David Starr Jordan speaks of the origin of our American colleges, of how they were born in poverty and of the early days of our colleges when there were many struggles to keep the wolf from the door so that as a consequence—a sort of heritage—colleges since have been keeping the old traditional wolf from the door and, rather than starve themselves, they are starving the other colleges. This principle of seeking the students applies to the large universities as well as to the smaller colleges. In the university the degree can be obtained with the saving of a year while the small colleges are not able to compete with this.

We have as a pride in our American educational system, the college, the unattached college, the college that is doing on the whole a greater and higher work for American education than the larger university. The large universities have greater facilities but unless the men inclined to study they receive a better training in the smaller college. By the trend of advance in professional education, more especially in medicine, we are depriving the smaller college of a great many of their students by giving them greater attractions by means of the abundant courses in the universities, to the detriment of the small college and to the detriment of our American medical educational system. As has been said, we have not a pure university in the country, Clark being the only possible exception. Some of us believe that certain culture studies can be undertaken in the department of arts as well as in the medical department. Things existing as they are, the man who attempts to do that is handicapped. He elects certain studies as chemistry and biology in his liberal culture course and is compelled to take them over again in the first two years of his medical course. To harmonize these courses is one of the objects which the Academy hopes to accomplish. We hope to devise a plan by which no time need be lost and by which a man will be given the benefit of the cultural training and receive all that is necessary of a medical training to fit him to begin the study of medicine.

Many of the other subjects to be discussed we leave to other associations that are working along on parallel lines with us. We by keeping in this line can aid them in other directions possibly as a medium of communication between the smaller colleges and the Professional School and prevent application for charters for medical schools by these smaller colleges which would not be a desirable thing.

Dr. Edward Jackson, of Denver:

It seems to me that in this discussion, which really is the continuation of the discussion before the Academy for years and which must continue for years to come, we have arrived at one or two points upon which we might take definite action. I would move that the reports be referred to the Council to bring before the Academy any formal resolutions that they may see proper. (Carried).

OBSERVATIONS IN PASSING.

The late Dr. Samuel J. Jones, of Chicago, when president of our Academy, asserted that in its field of work, it was a Missionary Society. This denomination is justified by the history of our organization. At the present time, the name is especially characteristic. A casual inspection of the literature of the self-confessed Missionary Societies shows the opening of opportunities far beyond the income of the societies to seize; and like all opportunity, if it passes, it is bald behind. Hence, they are carrying on an active propaganda to assure interest and increase contributions.

In like manner, the present interest in sociology is raising question after question requiring earnest study, and careful research to answer. While the income of the Academy since the adoption of the amendments to the constitution at Boston, nicely meets all routine expenditures, when administered with care, it does not permit the outlay essential to the entering upon new work.

Dr. John B. Roberts, of Philadelphia, also an ex-president of the Academy, in a paper presented to the Medical Society of Pennsylvania, advocates the *endowment* of County Medical Societies, because the opportunities to be of service to the public, by a County Medical Society, cannot be made use of without a greater expenditure of money than the highest income available from dues. If this be true of a County Medical Society, how supremely true it is of the Academy!

Might it not be well to bring the work of the Academy and the greater possibilities of effort that it cannot now undertake, to the attention of the public-spirited people of wealth. No one would desire the Academy to assume a position of servile solicitation, but to accept proffers towards an endowment "*prodesse civibus*" would not place us in such a position.

Recapitulate some of the recent efforts of the Academy. One hesitates to speak of the committee investigating the Teaching of Hygiene in the Public Schools, for one doubts if the work could have been done better with an untold income at its disposal. At the same time, an annual grant for this committee would be courteous were it only possible. Then the conferences with colleges on Medical Education. This is a topic that is of direct interest to every loyal alumnus of every "small" college in the land. It is wider in its results than the mere harmonizing of the courses between college and university for a few medical students. The investigation is accomplishing something, it could admit of a ten-fold enlargement. The conference for the next Academy year on the Prevention of Infant Mortality, is another subject of direct value to the country at large. Then a full presentation of the hospital problem, of the education of the people on things medical; indeed one can take any of the questions discussed by the Academy during the past five or six years, and make them subjects for profitable scientific research. One cannot close this review without adding the necessary central bureau of information where all that is doing be kept in mind and the information desired, so filed as to be available on demand.

The earlier members of the Academy must have had glimpses of this need for an endowment, for in the earlier constitutions, among the sources of income, *donations* were enumerated. While this has been dropped, a permanent fund has been started in the life dues; and we are in position to have that fund increased by sums large or small.

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We believe that the vast majority of the physicians of our land, desires the true welfare of their profession. The very fact that the shortcomings of a few are so constantly exhibited for rebuke, is in evidence of this, although by the prominence so given, it overshadows the honest efforts of the many for right living. We may assert, with self-conscious superiority, that the standard of excellence of the "rank and file" is very low, and the welfare sought is sadly marred by efforts for purely personal advancement and the sentiment receives applause, but creates a wrong impression. Assume that it may appear to be so; let us not throw stones, there may be some glass in our own edifice. Let our own light shine unostentatiously, that the better way may be seen. If it be, in truth, a better way, then those whom we have slurred will benefit by it.

Many of the objectionable features in the social world of the physician of to-day, exist because the better way has not been demonstrated. The request of the Boniface of the Mining Camp: "Don't shoot the pianist, he is doing the best he can," has a wide application. No one subject has received more adverse criticism of late than the character of the questions in the examination for medical licensure. A series of leading articles is planned for constructive criticism upon state examinations, which, we are sure, will be of value and help. The series makes an auspicious beginning in the present number. In this as in all questions discussed, the Bulletin believes that most truth can be seen differently from different view points; it welcomes additional communications.

⁂

On another page will be found the last instalment of Dr. Shastid's series of sketches—Practising in Pike. These have given pleasure to a number of our readers, for they have told us so. The management of the Bulletin is more than ever convinced that much of the inner life of the profession both in the present and in the past can be caught and preserved as historic and sociologic material, only by some method akin to that attempted in our department—After Consulting Hours. To make this department of greater usefulness, Dr. Shastid has been invited to take the editorial control. He has accepted and entered upon his work with enthusiasm. He is planning great things for it, and already has enough in sight to give the earnest of an interesting and profitable department for a number of issues. He assumes editorial control with the February number.

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The February number will have another change in its departments. "Observations in Passing" will be discontinued, and in its place there will be a department devoted to the editorial items of Drs. Motter, Baldwin and others on the events in the various divisions of Medical Sociology. This will be called "From the Field," and the articles will be signed by the initials of the editors contributing the article. There is a necessity for serving an *olla podrida* in a journal of the character of the Bulletin and these bits of nourishment will be unsigned under the heading "Notes and Notices."

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It appears as if the people are awakening to the necessity of preventive medicine and the sanitary control of communal life. The campaign of education is having happy returns. In this connection, we may call attention to the general government making an exhibit of medical and sanitary processes at the Alaska-Yukon-Pacific Exposition, next year. Their preliminary outline gives assurance of an interesting and valuable exhibit.

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The question of the proper educational scheme for a physician, is broader than the mere drafting of a curriculum, and more complex. Whatever President David Starr Jordan writes is worth reading, and we commend his article on another page, copied from the official journal of the California State Medical Society.

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Results of the examinations for licensure to practise medicine in South Carolina, 1908.

College.	Passed.	Failed.	Total.
District of Columbia			
Howard University	2	1	3
Georgia			
Atlanta Coll. Phys. and Surgeons	1	1	2
Atlanta School of Medicine	1	0	1
University of Georgia	3	5	8
Total	7	7	14

College.	Passed.	Failed.	Total.
Amount carried forward	7	7	14
Kentucky			
University of Louisville	1	0	1
Maryland			
Baltimore Medical Coll	2	1	3
Coll. of Phys. & Surgeons, Baltimore	1	0	1
Maryland Medical Coll	2	0	2
Univ. of Maryland	5	0	5
North Carolina			
Leonard Medical Coll	3	5	8
Pennsylvania			
Woman's Medical Coll	1	1	2
Phila. Coll. & Infirmary of Osteopathy	1	0	1
South Carolina			
Medical Coll. of S. C.	17	3	20
Tennessee			
Meharry Medical Coll	1	4	5
Tennessee Medical Coll	1	0	1
Univ. of Nashville	1	0	1
Univ. of the South	1	1	2
University of Tennessee	2	0	2
Virginia			
Univ. of Virginia	2	0	2
Total	48	21	69

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Notes from the proceedings of the South Carolina State Board of Medical Examiners, 1908.

The Board "reciprocated with" Texas, Virginia, Maryland, Illinois, Maine, Michigan, Kansas, Wyoming, Wisconsin, Minnesota, Nevada, West Virginia, Utah and Missouri.

The Board will not grant a license to any one who has failed to pass its examination, upon presentation of a license from another state; nor to any who have not practised for at least one year in the state whose license they possess.

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The Committee of Arrangements for the Conference on the Prevention of Infant Mortality to be held in the next Academy year consists of Dr. George Blumer, of the Medical Department of Yale University, Dr. J. Madison Taylor, of Philadelphia, Dr. Donly C. Hawley, of Burlington, Vt., with the President and Secretary, *ex officio*. In connection with this committee, an Advisory Committee is forming. Those who have already accepted appointment upon it are Professor Irving Fisher, president of the Committee of One Hundred on Public Health, and Chas. R. Henderson, Professor of Sociology, Univ. of Chicago.

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The conference for this year is to continue the investigation began at Pittsburgh last January, for unifying the courses leading to the baccalaureate and the doctorate. Except in a few institutions chaos reigns--the methods of these institutions are not generally possible. The profitable discussion of this topic necessitates the attendance of members of the faculties of liberal arts colleges in considerable numbers; yes, and of teachers in preparatory schools, as well.

The Council saw the necessity of this and instructed the committee in charge to arrange the time and place for the meeting to be in touch with the annual meeting of some college association. The North Central Association of Colleges and Secondary Schools, meets in Chicago on Friday and Saturday, March 26 and 27, 1909. The territory covered by the association includes many colleges that have felt the lack of unity in the courses, and are familiar with many of the questions. They are already interested in the subject, and will be in a position to contribute to its elucidation.

The committee, consequently, has selected Chicago for the place of meeting on Thursday, March 25th. It is at work on the program and is hoping to secure the official coöperation of the college association, with the same heartiness that it has been assured of the personal interest of those with whom it has been in correspondence. The meeting of their executive committee is not until after this number has gone to press, which prevents a more definite statement.

ACADEMY PERSONALS.

Herbst, Henry H., has been elected Mayor of Allentown, Pa.

Steiner, Walter R., Hartford, is secretary of The Connecticut State Medical Society.

Stevens, Cyrus L., Athens, is secretary of the Medical Society of the State of Pennsylvania.

Swarts, Gardner T., Providence, was elected president of the American Public Health Association, at its recent meeting at Winnipeg, Canada.

NECROLOGY.

Sep. 26. Josiah F. Kennedy, Los Angeles.
Oct. 27. John H. Jackson, Fall River, Mass.

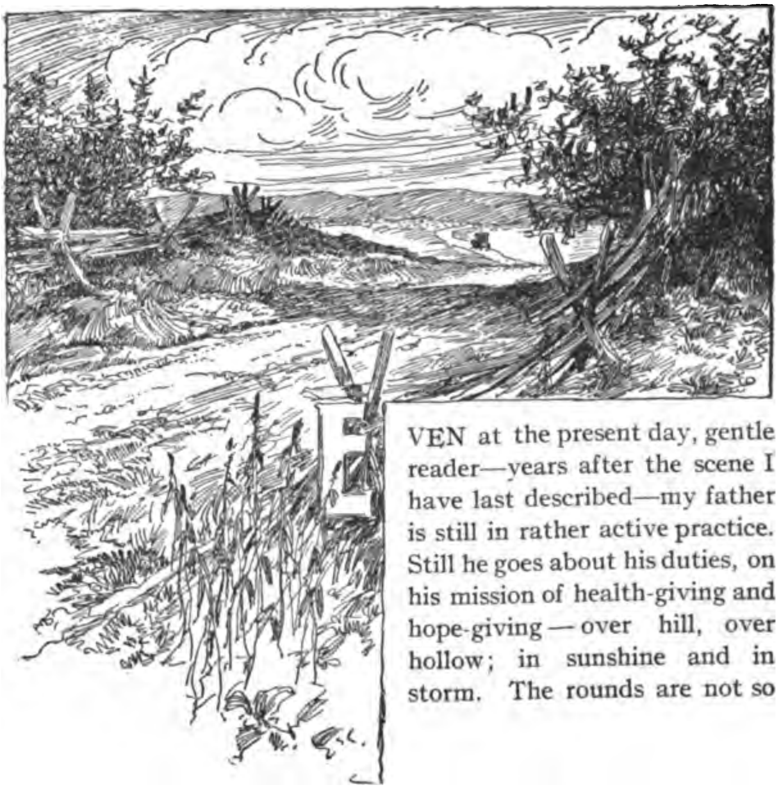
AFTER CONSULTING HOURS.

PRACTISING IN PIKE.

Thomas Hall Shastid, A.M., M.D., LL.B., Marion, Ill.

XVII.

PIKE COUNTY DAYS INSTEAD OF ITALIAN.



EVEN at the present day, gentle reader—years after the scene I have last described—my father is still in rather active practice. Still he goes about his duties, on his mission of health-giving and hope-giving — over hill, over hollow; in sunshine and in storm. The rounds are not so long to-day as when doctors were much scarcer; that is the only difference, though that is a rather great one. Sometimes I think that he has done enough, that forty and odd years of practice on the hills of Pike should now release him from his arduous work. And yet I know that, did he cease to practise, he would not be happy; that many a sick child would miss "my doctor;" and that many a sick man or woman, looking out at window, would long in vain to see the old white-headed physician come, once more, pill-bags in hand, along the path.

On my visits home, at the present time, I always ride again, of course, beside my father; and then we talk, and talk, and talk, much as we did in my boyhood. When, first, we leave a farmhouse, we discuss, as of old, the various aspects of the patient's case. Then, perhaps, we touch a little upon Latin or upon Greek; and then he falls to descanting upon his favorite classic authors. Afterwards, we are apt to speak of the old road, over which we have driven so many times; not a rise, nor a depression, nor a crook nor a turn of which, but is dear to us from old memories Indeed, every object in our view, as we drive along—no matter how trivial it may be—is very dear to us—signboards, fences, houses, everything.

Over yonder is where the buggy turned over at night and was wrecked—he laughs to think how muddy he was, and how fast the horse got away; there is where he made a joke about a bumblebee; here is the place where he saved the sick man's arm; there is where a "little shaver" used to run and call out to him. Up in the woods, lived Andrew Timberlake; there by the hill, stood the Mandersons' house over where the corn is so high he knows that Charley Cartbridge is plowing now. Even the places associated with unpleasant things possess a charm for us in these days, seen through the hallowing mist of long years.

He directs my attention sometimes, on these rides, to the sweep of the billowy fields of wheat, and for a time we hearken together, as we used to do, to the distant reaper—its faint click-clack, click-clack—as it moves round a square of yet standing grain. Or, delighted as a child, he cries, pointing to a spirit-like being on a rail-tip, "*Oh*, you sweet little meadow-lark!"

The blue-vaulted sky he talks of still, its infinite distances and its massive piled-up clouds that sail along like chains of floating mountains. "Some people speak," said he, "of the cloudless skies of Paradise. If ever I should chance to reach Paradise, I hope to behold the finest clouds that ever existed. No 'cloudless skies' for me." But still he makes no more poetry about the clouds. He is much too tired, he says, and too old, to make even such verses as his.

And often, too, perhaps through the suggestion of the clouds, he whispers, "Italy." And then sometimes he adds, "Tommy, I shall never see Italy."

And then I know he is getting old. A man is getting old indeed when the dreams of his earlier years are no longer hopes but only dreams.

And he laughs at his experiments, too, which he abandoned so many years since.

But I try to cheer him up, and I tell him that he'll get to go to Italy some day, in spite of the experiments.

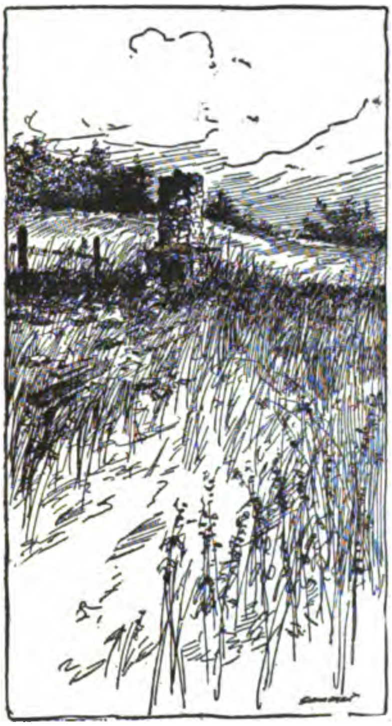
He says, "Oh no; too old, too old." Then he adds, "I like this better anyway. Come home often."

Recently we drove on a Sunday together—though there was no sickness— for the mere sake of riding as we used to—and then, as a matter of course, the "sweet-time, sweet-time" of the Pittsfield church-bells came to us across the solemn fields, and I asked him if he recalled the day when I tried to tell him what the bells seemed to say to me, and how he played at cutting me short and went to talking of typhoid fever. And he said that he did remember it. And he recalled, too, how, afterwards, *I* cut in on ***him***, and went to talking of typhoid fever, when he began to poetize about the clouds. And he was pleased to think we both remembered the same small things. And then he remarked that that was the very identical day—and it was—when Jove made some thunder especially for our benefit. And it was the same day, too, he said, with a laugh, when old Mr. Tupelo suggested the Raw Corn Treatment.

Talking of old times—he said he would tell me a "joke," something that had happened very recently. He said that, about a year ago, one night, as he was riding in the dark with his lantern out—which of course he should never have done, but he somehow did it—he fell asleep. And he dreamed that he had left me—I was a boy again—at the Freeclines', and that he was to call and get me there a little later, and so was to take me home. Even after he awoke, the dream stayed fixed in his head; and he went and drove for miles and miles from his course, to the lane that used to lead to the Freeclines' cabin, before he discovered his mistake. "I was almost out of the buggy," he said, "when I happened to remember that the Freecline hut burned down over twenty years ago."

And he fell too, very naturally, to talking of all those people whom "we" used to practise for in my boyhood:—the Vandermoolens; and the Pittengers; and poor old Uncle Micky, whom the Mandersons neglected; and the boy that hid his hat in the churn; and that other boy whom he built the snow man for, and who offered him his jackknife; and dear old Gran'pa and Gran'ma Patchen and Gran'pa's Sister Marthy. Over these latter he sighed very long. "No better people ever lived," he said, simply. But I knew what feeling lay behind the inexpressive words. And Johnny Prentice, too, who died of consumption, he mentioned. And the Underwoods. And the Faraways. And the Prestons. And the Armstrongs. And all the rest of them. And, as he talked, they seemed to him to be like one great family.

For some of these people, he said, he practised still—for them or their children, or the children of their children. Not a few of the older ones were dead; some, too, had moved away; some—as did the Vandermoolens once—had taken to other doctors—"gone after false gods," as he expressed it, with a sad smile.



The Vandermoolens, he went on to say—or those that were left of them in Pike—were still loyal. The family was much scattered, though. Some had gone to Kansas, some to Washington. Robert was dead. Mr. Vandermoolen and his wife—now very old—were living in Washington with some of the boys. Gran'ma, of course, had died long ago. None of them lived at the old place now. "So time passes!"

And, as we talked, the time of that particular day passed.

And as the farmhouse lights began to twinkle back to the stars, he said, "Your mother'll be waiting."

Then we turned, and started for home.

And, as the deeper night came down, and the birds cried, and the buggy creak-creaked but all else was silent, I thought how heavily, in my boyhood, on such occasions, the loneliness would oppress me, and how, well-nigh terrorized, I would creep beneath my father's arm and fall asleep. And how soundly and how sweetly I slept then! I could almost have drawn beneath that well loved arm again that night, had I not been so big.

And then, in the old days, would come the awakening. And there in the doorway would stand my mother, holding a lighted lamp in her hand.

There she was, too, that very recent night. And I thank God that the old country doctor and his wife—my father and my mother—are still alive, and still able to be of even a little assistance in this much afflicted world.

WORTH REPEATING.

THE AMERICAN MEDICAL SCHOOL AND ITS ENTRANCE REQUIREMENTS.[1]

PRESIDENT DAVID STARR JORDAN, Leland Stanford Junior University.

The American university of to-day is a compound of two divergent and more or less antagonistic elements, which in the current academic language, we call the college and the university. The college in theory is a place for general culture, for training the mind, broadening the intellectual horizon, and, so far as may be, making, by tasks physical, moral and mental, a man or woman better fitted for the work of the world. The university is a place of training for one's specific duties in life. Its functions include training for professional work, whatever the profession may be. Its general method is instruction through investigation, and its relation to the student is in many ways different from the task-setting work of the college. It demands for its teachers a somewhat different talent, that of a creative work, and of the power and the will in one way or another to add to the sum of human knowledge.

Our colleges are English in their origin. Our universities are German in their inspiration and method. Thus far in America the one has in a way antagonized the other. There has been a tendency to build up the university work by neglect of the collegiate work. Very many institutions have given instruction in professional or technical subjects of university grade to students who have had no collegiate training, often even no work of the still lower grade we call secondary instruction. On the other hand, the college has gradually pushed itself upward, relegating its lower years to the secondary school, and absorbing two of the years which would naturally belong to the university. In most of our larger institutions the fourth collegiate year is frankly given to investigation or to the beginnings of university work. In fact, though not in name, it belongs to the university rather than to the college. In a general way the admission to a German university—or graduation from the secondary school, Gymnasium or Real-Schule—corresponds with the end of the sophomore year in the best organized American colleges. In England, where the university as such is still in a state of probation, the conditions are not very different, so far as degree of advancement on the part of the student is concerned.

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[1] Abstract of an address before the San Francisco County Medical Society, April, 1908.

Recognizing these conditions, there is a strong movement in Germany to introduce the American college, to set off the last years of the Gymnasium or Real-Schule, as an intermediate stage between the local preparatory school and the school of technical training and investigation.

In America there is a tendency to separate the college into two parts, the junior college, of two years, in which the work is still collegiate, and the university college, in which the work of the university begins. This separation, first accomplished at the University of Chicago, is still little more than a name. About the University of Chicago several collegiate institutions have become junior colleges, that is, institutions which recommend some or all of their students to the universities at the end of the sophomore year. This arrangement is in many ways desirable. It is better for the university to be as far as possible free from the necessity of junior college instruction. It is better for the student at this period to enter an institution with large faculty and large resources. Furthermore, if the junior college has the teachers and conditions it ought to have, it is in very many cases better that the student should take his early training there, rather than as a member of the enormous mass of freshmen and sophomores our colleges are now carrying.

It is safe to prophesy that before many years the American university will abandon the junior college work, relegating it to the college on the one hand and to the graduate courses of the secondary schools on the other. Under these conditions its discipline and methods of instruction will approximate those of the university in Germany and other countries of Europe. Under these conditions the assistant professor of to-day will mostly find professorships in colleges; the professor will be an original scholar and investigator as well as a teacher, and the rule of Lehrfreiheit and Lernfreiheit will be established as a matter of course. It goes without saying that university conditions in America will differ in many ways from those of Germany. It is not likely that American legislative bodies will make a degree from the university a necessity for professional work, or its absence a bar to preferment. The trained man in America will have to take his chances with the rest, and for a time the "practical man," or even the ignoramus, may seem to distance him. But in so far as training is genuine, it will justify itself in every walk of life, and its value in the long run will be the more appreciated that it has no official attestation.

Thus far Stanford University has been a large college, well ordered for the most part, giving good instruction and with the highest collegiate standards. Its university work, though not extensive, has justly commanded respect.

The present condition of the university does not represent the original aim of the founders nor the ideals of the president. It has been the necessary result of limitation of funds, the long delay of litigation and the final settlement of the estate, and the recent unwelcome disturbance of the earthquake.

The elimination of these factors makes it necessary to look forward to the future. Is Stanford University to be a college or a university, or a compound of both? In my judgment the last cannot be a permanent condition in any of our large institutions. Collegiate instruction is relatively cheap. It is given well in upwards of two hundred institutions in America, and more or less badly in as many more.

University work on a large scale is expensive. If properly undertaken, it is the choice privilege of the new institutions that are generously endowed, or that are the educational pride of wealthy states.

Among these Stanford University must stand. Its great endowment was given for that purpose, and its freedom from outside control enables it to undertake lines of work, and long-continued series of investigation, efforts of the highest intellectual type, which would not find support in public institutions with their natural tendency towards the demanding of immediate results.

In 1892 Governor Stanford said repeatedly that he wanted this institution to combine the technical work of Cornell University with the highest post-graduate work or work of investigation, at that time represented by Johns Hopkins University; that he wished it to be a university in the highest sense, "beginning," to use his own words, "where the State University leaves off." I may say in passing that at that time the University of California was chiefly an undergraduate college. In its present expansion, it has largely begun where it then "left off," and we may admit that it has already gone much farther in the realization of the ideals of Governor Stanford than Stanford University has yet gone. But we have time before us, and most things are possible with time and patience.

To make a university, in the world sense, of Stanford University the following elements seem to me essential:

The elimination, as soon as possible—let us say in the course of five years—of the junior college, by the addition of two years to the entrance requirements. This need not necessarily raise the requirements for the bachelor's degree, which would then be, as now, two years of approved university work beyond the work of the junior college. These requirements are high enough. There is much to be said in favor of lowering them to the level of completion of the junior college course. This would correspond to the bachelor's degree of twenty or thirty years ago.

With this should follow the extension of the university as such and the intensification of the higher work. Especially medicine should be added to its scope of instruction, and other lines of advanced work would naturally follow if the university were relieved from the burden of elementary instruction—of work which is done more or less well in every part of the country.

Unlike the German universities the American universities must include instruction in the various professions of engineering. This is in Europe generally relegated to a separate institution, the Polytechnicum. The development of the creative phases of engineering is costly, and yet of the highest importance to the material progress of the country. Besides the increase of equipment, the library must be greatly enlarged, a process at present going on at a generous rate. It will also be necessary to provide adequate means for the publication of results of scientific, literary and other forms of research. The means for beginning this work have been already provided by your honorable board.

It will also be necessary to provide means for fellowships and scholarships. The present writer has been strongly opposed to the present fellowship system in America, believing that its evil of hiring men to study in a certain place often outweighs its advantage of furnishing promising men with means of making the most of this period of training. But in a matter of this kind it is not possible for a single institution to stand aloof from its associates, and to demand an adequate return in laboratory or other assistance from each fellow will tend to minimize these evils of the system.

The practice of medicine is no longer a trade but a profession. It is an art having its basis in science—an art of the greatest delicacy resting on science the most exact and the most profound. The time is past in which medicine can be taught as a trade, even in free America, which has no statutory provisions to compel professional men to be enlightened or honest or competent. But the nature of the subject and the necessities of the people demand that this work be done in the best possible way. Medicine must be taught by the methods which science teachers have found most effective and the study of its practice must follow a thorough knowledge of the sciences on which it depends.

For these reasons, the old-fashioned medical school of America, the association of physicians working without pay and without endowment, dealing with students ignorant of science and literature is passing away. Medical instruction is resuming its place in the university, where it has the benefit of university standards, university endowments, and university atmosphere. Of the many scores of medical colleges existing in America to-day, only those can live which become integral parts of the universities. The rest have ceased to be useful and so far as medical science is concerned most of them are positively harmful, and this remark applies as well to those which without real university standards maintain a nominal connection—for purposes of advertising—with some university or college.

The essentials of medical instruction are well equipped laboratories and hospitals, competent teachers, a standard of admittance which shall exclude the ignorant and those incapable of scientific conceptions, and a high standard of graduation which shall exclude unworthy men from the professional degree. Our universities are able to demand and to supply all this in their treatment of engineering. A few have done it in law, and most successfully, and a few have been able to do the same for medicine. Others might do it were it not for the one bugaboo—the fear of the loss of numbers through the maintenance of standards. Too many boards of trustees and some administrators still look on higher education as a game in which the scores are made by the number of degrees granted or the number of names in the catalogue. The very purpose of standards is to reduce numbers by shutting out of academic honors those who do not deserve them.

It is doubtless true that the young man of 18, the graduate of a high school, can follow the study of medicine with some intelligence, and that he can learn a little of science while in the medical school, in a year devoted to elementary chemistry, physiology and anatomy. It is also obvious that this equipment does not give the spirit nor the view-point of a scientific man and that the three remaining years of pathology and clinics will not make a scientific physician nor give to this, the most complex and exacting of professions, a training to which the university can afford to set its seal of approval.

The four years of a college course spent primarily on physiology, biology and chemistry, and secondarily on languages, literature and history, do give such training in generous degree. The requirement of the degree of A.B. with scientific studies as major subjects is required as a prerequisite for entrance on a four years' professional course in medicine by our strongest institutions. In criticism of this policy it is urged that the average student enters college at 18, four years of college and four of professional study bring him to the age of 26 before leaving school, even though his course goes on without interruption. It is further truthfully urged that the requirements for the bachelor's degree to-day are fully two years in excess of those prevailing twenty-five years ago. It may further be said, that a large part of the virtue of the university training comes from life within the university atmosphere. The student in medical work or other professional study participates in this atmosphere, he helps to create it, and his relation to it as a graduate student is even more vital than that of his collegiate days. Hence a university can well afford to abate its undergraduate, or non-professional requirements, in favor of the student who is to continue for an advanced period in professional or university work.

In accepting the justice of part of this argument, ably set forth by President Eliot and by President Butler, the requirements for the degree of A.B. have been in some institutions reduced so that a competent student may receive the degree after three instead of four years of undergraduate study. Other institutions have reached the same result by such an arrangement of the work as to devote the senior undergraduate year to independent investigation or to the beginnings of professional work. In medicine, this provides that the fourth year of collegiate work shall be the first of the four years of medicine. In other words, it gives seven years from the secondary school or the high school to the university degree of M.D., and to the present writer it seems that the university should not be satisfied with anything less than this.

There is, however, another forward tendency in university management, which must be reckoned with in this regard. There is a natural cleavage line in our undergraduate courses at the end of the sophomore year. The junior year of college represents in maturity and in requirements approximately the first year of the German universities. It is the year when the student begins to be independent and to shape his studies with more distinct reference to his future career. Hence these first two years of the college course have been set apart from the others in some institutions as the junior college, while for the two higher years the name of university college has been suggested by Dr. Harper. Dr. Harper went farther to suggest a degree or, as we may say, a half degree—Associate in Arts—for those who have completed the work of the junior college, but this suggestion has met with little favor. We hear too much already of degrees in our educational system. Conditions would be healthier in many ways if we could cut them all out—leaving only the professional degree of Doctor and Engineer—in the various branches.

It is believed by some, the present writer among others, that the universities of America should begin with the junior year, leaving the freshman and sophomore years to the colleges and the larger high schools and preparatory schools. By this arrangement all work of the university should be regarded as professional, confined to such subjects as are needed for professional training, and the profession of teaching among the rest, with such other subjects as may give breadth of vision or personal satisfaction, but not counting as constituents of a degree.

In this case the course of medicine should be lengthened to five years, by the inclusion of courses in science. The course in law should be lengthened to four years, by inclusion of history, economics and political science, and a similar extension should be made in the courses of engineering. These are now in most American Universities crowded into four years regardless of the fact that more than four years' work is actually required, and by this requirement all studies of literature and humanities are virtually relegated to the high school; as a result, if the successful engineer does not grow up illiterate, it is not because of any effort of the university. His literary culture he must pick up as he can and through his own efforts and his association with students in this regard is more favored.

The final settlement of this matter, in my judgment, will be along the lines indicated above. Meanwhile the requirement of a single year of collegiate chemistry and biology as a prerequisite to entrance on a four years' medical course may be a necessary step in advance. But it is only a step—a short one and a temporary one. The requirement of two such years is a step in advance—twice as long, and therefore twice as valuable. There ought to be some way of indicating our official disapprobation of the medical departments that do not take it, and for a time its results will be reasonably satisfactory. But we must go farther. If we do, we may turn our senior year over to premedical science, or we may require a degree with chemistry or physiology as major subject before beginning on medicine at all, or we may begin all professional work with the third or junior year of the present American college, in which case we may strengthen the medical course with another year of scientific requirements and further clinical experience at the end. On the whole, this last plan seems to me most nearly in the line of the development of the American University system.

California State Jour. of Med., Oct., 1908.

AN ETHICAL CODE OF ETHICS.

The "Code of Ethics" for lawyers adopted at the recent session of the American Bar Association is notable for being ethics. What is called the ethics of the medical profession has very little to do with ethical questions; it provides rather for the dignities of the profession and for punctilios of courtesy among its members. The finer unselfishness which distinguishes the best physicians is never attributed by anybody to professional ethics. But this new code for lawyers applies itself squarely to matters of personal honor and fidelity. It demands that the individual lawyer shall regulate his professional conduct with an eye to manly moral standards, and that he shall not do anything to degrade the bar to the level of "a mere money-getting trade." That a lawyer ought never to resort to untruth or subterfuge to clear a client or win a case is vigorously insisted. "It is unprofessional and dishonorable to deal other than candidly with the facts," bluntly says the document. Scrupulous faithfulness to a client, whether he can pay a fee or not, is inculcated stringently and strenuously. The oath which the code proposes for admission to the bar comes to a climax in this great vow: "I will never reject, from any consideration personal to myself, the cause of the defenseless or oppressed, or delay any man's cause for lucre or malice, so help me God." There is, of course, no legislative force in this document, and it will never avail to compel any lawyer to be good, if he prefers not to be. But it does set the ideal right and holds it high, and so doing it will help many young men to choose the noble part and will heap deeper disgrace on those who "for lucre or malice" embrace what is ignoble.—*The Interior, Sept. 24, 1908.*

LITERATURE NOTES.

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FOURTH ANNUAL REPORT OF THE HENRY PHIPPS INSTITUTE FOR THE STUDY, TREATMENT AND PREVENTION OF TUBERCULOSIS—FEBRUARY 1, 1906 TO FEBRUARY 1, 1907, EDITED BY JOSEPH WALSH, A.M., M.D. Published by the Henry Phipps Institute, 238 Pine Street, Philadelphia, 1908, pp. 430.

The first 107 pages of this report is given to a study of the clinical and sociologic data collected by the Institute and is from the pen of the Medical Director, Dr. Lawrence F. Flick. The remainder of volume is devoted to more purely medical subjects by various members of the staff.

Now that the preliminary experimental work is over, careful statistics are recorded of the social conditions of the patient. There are not data enough as yet for any broad generalization; notwithstanding, their discussion is interesting and the suggestions deduced valuable.

Dr. Flick recognizes the condition when he wrote:

> The Institute has now records of nearly five thousand cases. All of these are not equally complete, inasmuch as in the beginning many difficulties were encountered which go with a new work and which materially interfere with accuracy of observation and complete records; moreover, the men who are now doing the work with great accuracy had to be trained for it, the records improving just as these men have become more expert in their work.

With this limitation acknowledged, Dr. Flick has made judicious use of the material at his command, and the report can be consulted with profit by all students of the subject.

UNIVERSITY OF MISSOURI STUDIES—SOCIAL SCIENCE SERIES. Volume I. THE CLOTHING INDUSTRY OF NEW YORK. BY JESSE ELILPHALET POPE. Professor of Economics and Finance. Published by the University, paper, pp. 339. Price, $1.25

Space fails for a critical review of this volume; its value can be seen by transcribing the chapter headings.

Part I. Period before 1880—Chapter I.—Beginning of the Clothing Industry; 2, Systems of Production and Employment; 3, Wages and Conditions of Employment. Part II. From 1880 to the present. Chapter 1, Personnel of Workers: Nationality, Sex and Age; 2, Systems of Production and Employment; 3, Movement of Wages; 4, Systems of Wage Payment; 5, Conditions of Employment: Hours and Sanitation; 6, Income and Expenditures; 7, Regulation; 8, Trade Unions; 9, The Sweating System; 10, Conclusion.

Volume II. Part I—THE SOCIAL FUNCTION OF RELIGIOUS BELIEF. BY WILLIAM WILSON ELWANG, PH.D., paper, pp. 103. Price, $1.00.

PRACTICAL POINTS IN ANESTHESIA. BY FREDERICK-EMIL NEEF, B.S, B.L., M.L., M.D., New York. pp. 46; V. Price, Cloth 60 cents; Flexible leather $1.50 post-paid. Surgery Publishing Co., 92 William St., N. Y., U. S. A.

The author in his preface says:

"I have tried to prevent some of my impressions on the correct use of chloroform and ether and of a very useful combination of these—anesthol."

This personal testimony makes this monograph of value. Where one agrees with his teachings, one can approve; should there be any conclusion that does not tally with one's observation, it is the author's own and is not fogged with quotations of authorities. It is of especial value as a manual for those who are beginning to administer anesthetics, and for those who are called upon occasionally to administer them.

The publishers have aided the author by the use of marginal notes in red ink, enabling one to find quickly any desired bit of advice, and by furnishing a very full index.

TRANSACTIONS OF THE TEXAS ACADEMY OF SCIENCE FOR 1907. Vol. X.

This pamphlet of 85 pages publishes seven papers, two of them by physicians: "The Resistive Power of the Animal Organism," by Dr. James E. Thompson; and "A Theory of Ferments and Their Action," by Dr. J. W. McLaughlin. None of the papers relate to Medical Sociology.

THE COLORADO SOUVENIR BOOK FOR THE INTERNATIONAL CONGRESS ON TUBERCULOSIS. Washington, D. C. September 21 to October 12, 1908. COLORADO FOR HEALTH, COLORADO FOR WEALTH, COLORADO FOR HAPPINESS. Edited by WM. N. BEGGS, A.B., M.D. Published by the Colorado State Organization of the International Congress on Tuberculosis.

A paragraph from the "Foreword" explains this handsomely illustrated pamphlet and its purpose.

> Loyalty to the State of Colorado is and has always been a marked characteristic of all her citizens, whether they have been native born, or have been attracted from other portions of the world. The munificent climatic, scenic and economic beneficences which she has so generously lavished upon them, constantly excite in her children feelings of wonder, admiration and gratitude. Therefore the Colorado State Organization of the International Congress on Tuberculosis, through its Exhibition Committee, takes advantage of the opportunity offered by the meeting of the International Congress in Washington, September 21 to October 12, 1908, to publish and dedicate the booklet to the State of Colorado, recognizing the fact that our effort is but feeble and entirely inadequate to suitably describe her remarkable resources and benefits.

Those of us who were the guests of these loyal citizens of the Centennial State, when the Academy met in Denver, can appreciate the claim made in this preface. The pamphlet presents the attractiveness of the State very pleasantly and furnishes a fund of valuable information entertainingly.

THE PHYSICIAN'S VISITING LIST (LINDSAY & BLAKISTON'S) FOR 1909. 5th year of its publication. 25 patients per day or week. Pencil, pocket, etc. $1.00.

While the oldest of the visiting lists, it is not antiquated. The enterprising publishers, conscious of the convenience of their book, amend it constantly to keep it up-to-date, retaining those features which experience show to be desirable.

A WINTER CRUISE TO THE ORIENT. (Extract from a private log book.) BY CASEY A. WOOD, M.D., Chicago.

This brochure by an ex-president of the Academy is reprinted from the *Montreal Medical Journal*. It gives an entertaining account of a voyage on the *Arabic* last winter. Beginning at Funchal, thence through Pillars of Hercules, stopping at various places on the way to Egypt, the Holy Land, and the Levant generally.

MEMORANDA.

The *Yale Medical Journal*, heretofore devoted exclusively to the interests of the Medical School, will hereafter publish the proceedings of the Connecticut State Medical Society in advance of their issuing in a bound volume, a decided improvement upon the usual form of a State Medical Society periodical which does not furnish the convenience of the bound volume.

The Bureau of Census prepared a report on "Tuberculosis in the United States" for the Tuberculosis Congress, based upon data on file in the Bureau, and illustrated by charts both in color and in black and white.

The last Bulletin of the Bureau of Labor—No. 77, July 1908—furnishes a wealth of statistics material on wage and hours of labor, 1890–1907; Retail Prices of Food, 1890–1907; Compensation for Injured Government Employees.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the previous issue that are not otherwise mentioned in this number. The present list records publications received from September 21 to November 20, 1908, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice or review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Tenth Report Michigan Academy of Science, 1908.

Annual Report of the Board of Public Charities, 1907.

University of Illinois Bulletin. V. 30, The Modification of Illinois Coal by Low Temperature Distillation. V. 31, Lighting Country Homes by Private Electric Plants.

University of Iowa—Bulletin New Series 182. Contributions from the Department of Pathology and Bacteriology.

University of Nebraska—21st Annual Report of the Agricultural Experiment Station.

The Broader Aims of the Council on Pharmacy and Chemistry of the American Medical Association. Torald Sollman, M.D., Cleveland.

The Sanitary Cement Block House. Charles Denison, A.M., M.D., Denver.

Historical Sketch of the Deceased Founders of the Detroit Academy of Medicine. Leartus Connor, A.M., M.D,, Detroit.

On the Character of State Board Examinations and the Competency of State Medical Examining Boards. Willis G. Tucker, M.D., Albany, N. Y.

Improvement and Deterioration. J. T. Searcy, M.D., LL.D., Tuscaloosa, Ala.

Bullettino della Reale Accademia Medica di Roma: Anno XXXIII, Fascicoli i to vi; Anno XXXIV, Fascicoli i to iii.

INSTITUTIONS OF LEARNING.

Illinois, Wheaton Coll., Bull. 7:4. *Kentucky*, University of Louisville, Med. Dept., 72nd Announcement, 1908–9. *Nebraska*, Doane Coll., News Letter, O., 1908. *New York*, Auburn Seminary Record, 4:4. *Ohio*, Western Reserve Univ., Bull. 11:5, S., 1908. *Rhode Island*, Brown Univ., Bull. 5:4, O., 1908. *Virginia*, Univ. of Virginia, Alumni Bull. 3S, 1:4, O., 1908.

REPRINTS

On other than medico-social subjects have been received from Drs. J. M. Baldy (4), Philadelphia; William Seaman Bainbridge, New York; Truman W. Brophy, Chicago; Alexander Duane, New York; A. Ernest Gallant (3), New York; Albert C. Geyser (3), New York; Holbrook Lowell, Boston; John Edmund Mackenty, New York; W. D. Richardson and Erwin Scherubel, Chicago; E. W. Scripture, New York; C. F. R. Weiss, London, England.

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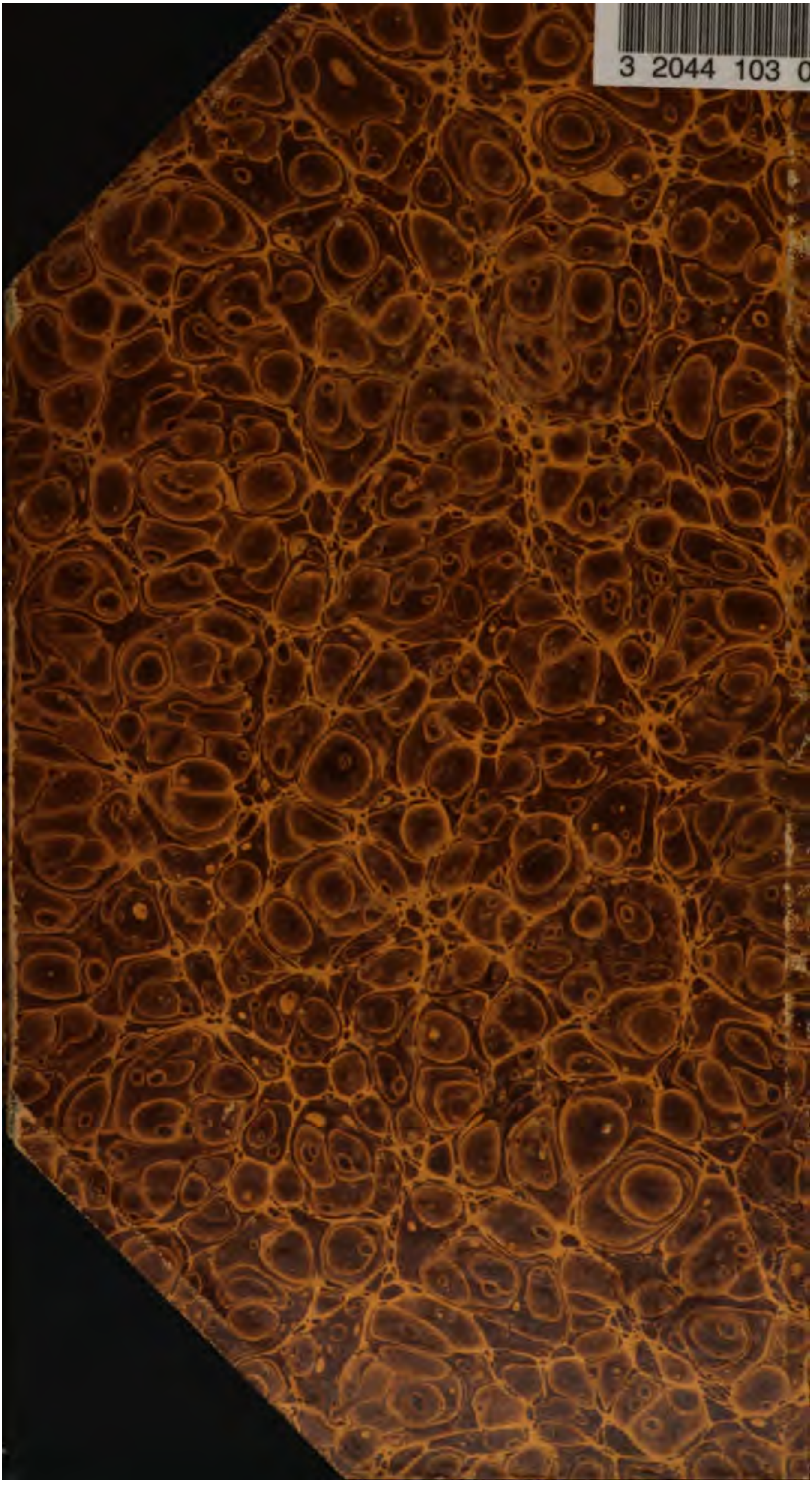

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